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OKLAHOMA SCHOOL OF MEDICINE

Address Delivered by

LEROY LONG, M.D.

Dean of the University of Oklahoma School of Medicine.

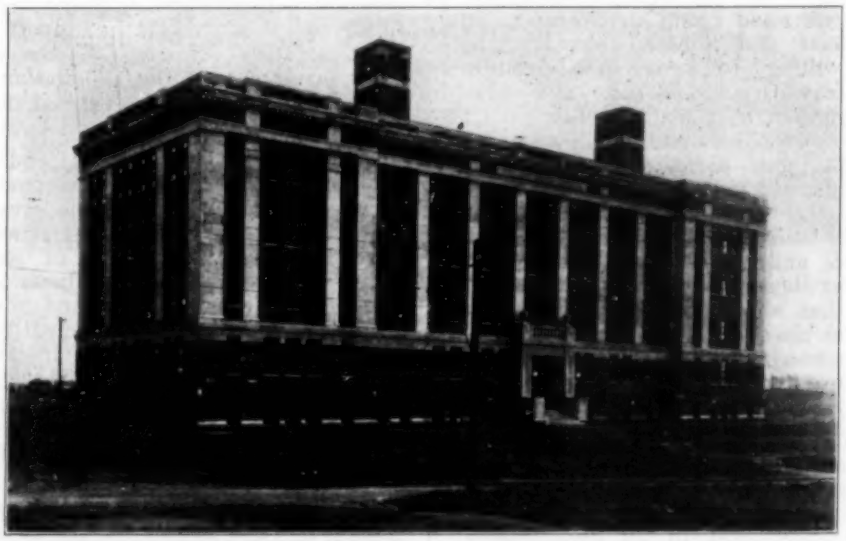
At the Dedication of the School of Medicine Building, Oklahoma City, November 2, 1928.

Mr. President, His Excellency the Governor, Distinguished Guests, Members of the Board of Regents, Fellow Students, Ladies and Gentlemen:

Speaking for the School of Medicine, I wish first of all to extend to you a most cordial welcome. I wish to extend to you welcome and a hearty invitation to visit us again, and often.

Some years ago, when we were a "B" grade school, we felt the humiliation of it—humiliation, not because we believed the classification unjust, but, rather, because we realized that it was a just and *fair* classification, for at that time we knew that we were not able to qualify for "A" grade, or first class standing. Fortunately, the humiliation under which we smarted spurred us on to greater effort.

A little over ten years ago we were doing the best we could in temporary quarters at Norman and in wholly inadequate rented property here at Oklahoma City. In order to get a start, we went to the Legislature and asked for an appropriation to build a hospital for the school. The bill providing for an appropriation for the construction of a hospital and the creation of a campus for the medical department of the State University, on a tract of State-owned land in Oklahoma City, was introduced in the Senate where it was referred to a committee. From our point of view, the need was so obvious that we innocently imagined that there would not be much opposition. Our eyes were opened when, only a few days later, the committee brought in a report recommending "that the bill do not pass."



SCHOOL OF MEDICINE, OKLAHOMA UNIVERSITY, OKLAHOMA CITY

Through the invaluable assistance of friends in the Senate, together with the powerful influence of Governor Williams, who was then the Chief Executive of the

State, the bill was sent back to the committee for reconsideration, and it was arranged for us to have a hearing two days later at the noon hour in the Senate Chamber. Nearly all the members of our faculty were there, and many students. It was a memorable occasion. With impassioned pleas and unanswerable logic, one after another presented the claims of the School of Medicine, and on that day we solemnly promised that if we could get help we would remove the odius stigma of "B" grade.

And then the medical profession came to our assistance. The members of the Legislature were anxious to secure reliable information, and they received it from the physicians of the State. The struggle continued for longer than two months, when, in March, 1917, just before the adjournment of the Legislature, the bill passed by an overwhelming majority.

Parenthetically, let me say this: We have had official dealings with six or seven Legislatures, and, almost without exception, we have found the members in both House and Senate, regardless of party, willing to hear and consider straightforward statements. We have likewise had official dealings with the administrative officers of the State over this rather long period, and, practically without exception, we have been heard with patience and courtesy, and have received at their hands invaluable support, assistance and co-operation. Our experience over those years leads me to believe firmly that sharp practices and tricks should be shunned by an educational institution seeking aid at the hands of the Legislature and officers of State.

The Great War interfered with the building of the hospital, but it was finallly completed in 1919 and in August of that year we occupied it. In the meantime, through legislative help, the school had been strengethened in all departments. In March, 1920, following an inspection by the Council on Medical Education, we were advanced to "A" grade. The first of our dream had "come true."

Then we had another dream—a dream with a vision—the vision of a building here on the campus of the School of Medicine that would house the entire school. And now that dream is a reality.

But, as invaluable as has been legislative help, that, alone, could not have carried us forward over those weary and sometimes disheartening years. During the developmental period of an institution —particularly an institution that requires a large personnel, without means to pay them adequately—there is only one way by which success can be achieved, and that is through the complete loyalty and co-operation of the faculty. It is well known that the University of Oklahoma has grown so rapidly that its needs have uniformly been out of proportion to the salary budget, with the result that members of the faculties of all departments have received less for their services than that paid by other like institutions of smaller size, and probably of less importance. This has been particularly true of the School of Medicine, where many members of the clinical division of the faculty have not only served for practically no pay, but for a number of years furnished much of the necessary technical equipment.

We now have a faculty of almost one hundred, and, regardless of minor differences, and, sometimes temporary heartaches, they have stood, as they stand now, in an unbroken phalanx in support of the administrative officers of the school. That, after all, is the foundation upon which the medical department of the University of Oklahoma has been built.

But even with a loyal faculty and money to build houses and buy equipment we could not succeed without the great central support of the University with its wise President and Board of Regents. All of our dignity and usefulness and influence are centered there, and now that we are entirely off the principal campus I feel the necessity of keeping in close and intimate touch with the University with a keenness that I never realized before—a keenness so acute, sometimes, that I envy the sister departments that are grouped on the campus at Norman.

Any impression that the School of Medicine is drifting away from the University because it happens to be located in Oklahoma City is foolish, unreasonable and utterly groundless. Without our connection with the University we could not exist as a respectable medical school. To be known as the medical department of the State University of Oklahoma gives us prestige and power and standing; aye, and it gives us pride—so much pride, Mr. President, that the paramount ambition of this school is to do its work in such a way that it may be worthy of the confi-

I have already referred to the assistance that the school has received from the medical profession, but I cannot permit this opportunity to pass without emphasizing our gratitude to the physicians of the State. I have every reason to believe that the school has their active support, and I regard that support as one of our most important assets. No class of citizens are better able to intelligently judge the work of the school, because they are able to accurately appraise the product of our efforts in both the training of students and the treatment of patients in our hospitals and clinics.

Not only are we grateful, but we wish to render a concrete service to the medical profession in both their own interests dence of the great University of which it is a part.

OKLAHOMA'S HOSPITAL FOR CRIPPLED CHILDREN, OKLAHOMA CITY

and the interests of the people they serve. To that end, we take the greatest pleasure in co-operating with the extension department of the University in securing eminent medical men to conduct courses in the several departments of Medicine both on the circuits in different parts of the State and the special courses here at the school. In every way, our doors are open to the reputable members of the medical profession and we most earnestly extend to them a standing invitation to use, at their pleasure, any facilities that we possess.

In an address at a meeting of students just after the School of Medicine was advanced to "A" grade in 1920, I referred to the custom in anicent Greece of bringing together Grecian youths every four years to take part in the foot races at Olympia. Only free born Greeks of unblemished reputation who had spent a prescribed period of training in a gymnasium could enter, and before the contest began each one had to swear that he would race fairly. And then, after the swift struggle down the long stadium, the victor was conducted to the feet of the statue of Zeus where he received the greatest gift that Greece could bestow. Not money or lands or houses, but a simple wreath of branches cut from the sacred wild olive tree. The contestant at Olympia did not run for sordid gold or crumbling wealth, but for an ideal. And then, after the ideal had been attained, he had the right to build a monument in the sacred grove.

We, too, had an ideal. It was attained in 1920 when the olive wreath of "A" grade was laid upon the alter of our school. Then we claimed the right of the victor to build a monument in the sacred grove. It has been done, and we are here today to dedicate it. In this solemn hour I pledge the best efforts of this faculty to maintain our ideal, and to see to it that the work done in this house shall be useful to the people of the State.

GOITRE

W. W. RUCKS, M.D.
OKLAHOMA CITY

In order to diagnose and treat diseases of the thyroid properly, a simple classification is essential. Goitre should be classified as: *colloid, adenomatous* (simple or toxic) and *exophthalmic.*

In this simple classification we have two non-toxic and two toxic varieties. The nontoxic are colloid goitres and simple adenoma. The toxic varieties are ade-

noma with hyperthyroidism and exophthalmic goitre.

The word goitre merely indicates an enlargement of the thyroid gland but gives no hint as to the type. Definite diagnosis as to type is necessary in order that a sensible prognosis may be given and intelligent treatment instituted.

Colloid goitre may occur in any locality, but is largely met with in the goitre regions or belts and most frequently has its onset at or shortly after puberty. It is not characterized by signs or symptoms of hyperthyroidism. It has been called "adolescent goitre" and because of regional distribution in certain inland, mountainous, supposedly iodine-poor localities, it has been called "endemic goitre." This may be somewhat misleading since adenomatous goitre frequently have their beginning at this age of life and are also classed endemic.

The adolescent or colloid goitre is a smooth, symmetrical enlargement of the thyroid and should not be treated as a toxic goitre. It is characterized by geographical preponderances in certain endemic goitre areas; frequent onset at or shortly after puberty, and absences of signs or symptoms of hyperthyroidism.

While the majority of cases are found in regions where goitre is endemic, sporadic colloid goitre may occur anywhere and undoubtedly is not infrequently met with in Oklahoma. We may conceive of colloid goitre as being the expression of a stimulus to the thyroid acting only for a limited time. This stimulus is probably merely a chemical demand on the part of the tissues for an increased supply of thyroid secretion. As the result of the stimulation, there is a slight degree of hyperplasia, dilatation of the acini and therefore some enlargement of the gland. Upon cessation of the stimulus, hyperplasia gives away to retrogression and the dilated acini become filled with colloid and can never revert completely to normal size so that the gland remains permanently enlarged. It is normal physiologically but abnormal anatomically.

This is the type of goitre upon which Marine and Kimball have shown iodine to have so remarkable effect. The gland shows rapid reduction in size provided other lesions such as adenomata are not present. The iodine appears to give the gland the needed rest and thus enables it to return to as near normal as may be consistent with the permanent damage that has already taken place. When hyperplasia has passed a certain stage, return to normal is impossible and the best that can be hoped for is a colloid goitre. Marine and Kimball have demonstrated in a large number of school children that the use of iodine in this type of goitre is both curative and prophylactic.

NON TOXIC ADENOMA

Another type of non toxic goitre is adenoma without hyperthyroidism. This consists of a hard nodular, asymmetrical enlargement of the thyroid gland. Pathologically typified by one or more encapsulated masses called adenoma; degenerative alterations in some of these masses by hemorrhage, cystic changes or calcification and intensely staining colloid. It is characterized clinically by: 1. Geographical preponderance in goitre regions. 2. Frequent onset shortly after puberty and persistence for many years thereafter even into late adult life. 3. Absence of symtoms of hyperthyroidism. This type of goitre is frequently seen in Oklahoma. It is the hard, nodular or multinodular goitre and may exist for years without producing constitutional symptoms. Like colloid goitre it may have its development at or around puberty and for years its development may be very gradual. Later however, it bulges into view and then attracts even greater attention than the colloid variety because of its cosmetic ugliness and asymmetry. Generally the right lobe is more conspicuously involved than the left though both sides usually show in the adenomatous pathology; whereas a moderate size colloid enlargement is characterized by a smooth rounded symmetrical fullness to the neck, in some instances even adding beauty. An irregular adenoma will mar and disfigure the neck, which is one indication for operation. Hemorrhage into an adenoma may suddenly occur as I have seen it do with immediate and alarming symptoms. Or, the patient at 30 to 45 years, gradually become cognizant of annoying constitutional symptoms which she may not associate with goitre but which her doctor will recognize as evidence of toxic alterations in the adenomatous gland.

Most intra-thoracic goitres are of the adenomatous variety, also malignancy of the thyroid has its origin in this type and occurs in about two or three percent. When an adenoma perforates its capsule,

malignancy is an assured fact. Metastases occurs most readily from the thyroid and malignancy therefore is universally fatal. Adenoma without hyperthyroidism is distinguished from toxic adenoma and exophthalmic goitre by absence of constitutional symptoms—normal basal metabolism rate. The constitutional signs and symptoms that depend upon excessive function of the thyroid such as tachycardia, tremor, palpitation, dyspnoea, nervousness, loss of weight, diminished endurance are present in toxic adenoma. Added to these in exophthalmic goitres are the peculiar "eye signs," the great emotional disturbances which may often become delusional. Simple adenoma is free from these symptoms.

Non-toxic adenoma become surgical because of its unsightliness; because of sudden hemorrhages into the adenoma, choking sensations and as a prophylactic measure against toxic goitre. Also it is a potential source of hypertension, nephritis, myocarditis and malignancy, and as such should receive early surgical attention.

The use of iodine in adenoma of the thyroid has been strongly condemned by Plummer and many other workers in goitre. Its use converts a non-toxic into a toxic adenoma and rapidly brings about the constitutional symptoms of hyperthyroidism in an otherwise non-toxic goitre.

An indiscriminate use of iodine cannot be too strongly condemned. It is a valuable remedy in the prophylactic and reduction treatment of colloid goitre. It is a detrimental remedy in the treatment of adenomatous goitre. It is a remarkably valuable remedy in the pre-operative treatment of exophthalmic goitre, also of great value in the post-operative management of exophthalmic goitre.

Toxic Adenoma is typified *pathologically* by:

1. One or more encapsulated masses called adenomas.

2. By absence of parenchymatous hyperplasia in most cases.

3. By weak staining colloid.

CLINICALLY CHARACTERIZED

1. By the history of the presence of goitre for many years without symptoms of hyperthyroidism.

2. Then by more or less striking symptoms of hyperthyroidism such as tachycardia, tremor, nervousness, loss of weight etc.

3. An elevated basal metabolism rate plus 15 to 80 plus.

4. Absence of exophthalmic signs.

5. Absence of thrill and bruit over thyroid.

6. Intensification of symptoms if iodine has been administered for a considerable length of time.

7. Complete relief from symptoms of hyperthyroidism and restoration of normal basal metabolism rate when fully operated.

This type of goitre should not be confused with hyperplastic or exophthalmic goitre, since the pre-operative and post-operative care is quite different. The history will be of great value in determining the type; goitre will have existed for many years without having caused any symptoms and frequently the patient does not associate the nervousness and diminished endurance with the enlargement in his neck. What factors are responsible for this toxic complication, be it sudden or gradual, remains a mystery, whatever the force may be, it seems to act by increasing the concentration of thyroid hormone in the tissues of the body. In fact, the clinical picture of toxic adenoma can be exactly reproduced by the administration of excessive doses of thyroid extract or thyroxin, concomitant with the symptoms may be noticed enlargement of the goitre which has been stationary for years. Nervousness is a real symptom and may be noticed by relatives as well as experienced by the patient. Tremor is a constant symptom and may not be confined to the fingers but felt through the whole body. Diminished endurance is noticeable, regarding which the patient is much concerned. Cardiac symptoms are tachycardia, shortness of breath, palpitation, and a feeling of warmth is not uncommon. Appetite is increased but the patient is surprised to find that he is losing weight despite his intake of food. The basal metabolism rate is above normal. The long duration of these symptoms brings serious heart changes and arterial changes with elevation of blood pressure, converting a fairly safe operative risk into a very serious one. Operative removal of the adenomatous goitre is the only treatment of value, though a period of rest, sedation

and digitalization may of necessity precede it.

Exophthalmic or Hyperplastic goitre is a constitutional intoxication due largely to excessive and perverted thyroid function. It is pathologically typified by:

1. Diffused parenchymatous hypertrophy and hyperplasia of the thyroid.

2. Absence of adenomatous masses in most cases.

3. General lymphatic hyperplasia.

4. A very low iodine content.

5. Degenerative changes in the cervical sympathetic nerves and ganglia.

CLINICALLY CHARACTERIZED

1. Smooth symmetrical enlargement of the thyroid with palpable thrill and bruit in most cases.

2. Constitutional symptoms such as, nervousness, loss of weight, loss of strength, tremor, perspiration and intolerance of heat, tachycardia and enlarged toxic heart, increased appetite with loss of weight, increased basal metabolism rate, worry, and irratibility.

3. Exophthalmus and other eye symptoms in about 60%.

4. A dangerous tendency to thyroid crisis with nausea, vomiting, diarrhea, hyperpyrexia and sometimes jaundice.

In this type of goitre, we have as stated by Plummer, not only the symptoms due to hypersecretion, but a toxic element which gives rise to that part of the syndrome which may be grouped under the eye findings and the intense and peculiar nervousness and psychic changes even maniacal.

According to Plummer, this abnormal product is thyroxin, uniodized. When iodine is administered, the molecule of thyroxin is iodized and robbed of its toxic effect and there remains only the excess of thyroxin. When this condition has been reached by the use of iodine, the time for operation has arrived. Iodine here is most valuable—as by its judicious use a poor operative risk may be converted into a comparatively safe one. Pre-operative ligations have ceased to be a necessity. Thyroid crisis is avoided and post operative shock is greatly reduced if not altogether relieved. Iodine is not a cure for exophthalmic goitre and should be used only as a pre-operative preparation and in post-operative care. Proper and well delivered surgery is the therapeutic climax.

I would like again to say iodine is indicated and used with benefit in colloid goitre. That it is contra-indicated in adenomatous goitre and its use will convert a non-toxic adenoma into a toxic one, and in an already toxic adenomatous goitre, will aggravate the symptoms when given over a prolonged time. It is a very valuable remedy in exophthalmic goitre, not as a cure, but as a preparatory treatment for operation and should be used for no other purpose, except for a time, post-operatively.

Concluding, I wish to emphasize the necessity of differentiating the two types producing the characteristic symptoms of hyperthyroid function. If one does this clearly, he is on a safe basis for goitre work in Oklahoma.

The following differential points may be enumerated:

HYPERPLASIA	ADENOMA
1. Exopthalmic—60%.	1. No exophthalmus.
2. Thrill & Bruit over thyroid.	2. No Thrill or Bruit.
3. Symmetrical goitre of uniform consistency.	3. Asymmetrical, nodular goitre.
4. Parallel development of goitre and toxicity.	4. Goitre of a years' duration before toxicity develops.
5. Rapid development of toxicity to an advanced degree with periods of remission.	5. Slow development of toxicity without remissions.
6. Etiology - psychic, trauma, infection.	6. Endemic.
7. Typical blood pressure 140/60.	7. Typical blood pressure 160/100.
8. High percentage of lymphocytes.	8. Normal blood picture.
9. Rarely sub-sternal goitre.	9. Most substernal and intra-thoracic goitre are adenomatous.
10. Rarely pressure signs.	10. Pressure a common complaint.

A further conclusion is that the use of iodine in goitre has not been entirely clear to every one. This conclusion is held because many patients are seen who have been taking iodine for months as a cure. Such a use of iodine is apt to produce iodine hyperthyroidism, especially is it prone to do so in adenomatous goitre—either toxic or non-toxic.

The public is now demanding iodine regardless of the type of goitre. It is clearly the duty of the profession to regulate its administration after a definite diagnosis. In colloid goitre in young subjects, it is curative and preventive. In non-toxic adenoma it should not be given; in toxic adenoma it may be administered for 8 or ten days as a preoperative preparation, espec-

ially as there is often a mixed type. Areas of hyperplasia may exist and iodine will distinctly lessen the toxicity.

In exophthalmic goitre, it has its most beautiful effect but should be given only as preoperative preparation and post-operatively until the patient has been fully relieved of his toxemia.

Proper, well timed, skillfully delivered surgery is the therapeutic climax.

THE USE OF IODINE IN GOITRE

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OKLAHOMA CITY

That the use of iodine in goitre has resulted beneficially in some cases has long been known. Rogers, of the University of Salerno, in the twelfth century discovered the value of the ashes of sponges and seaweeds in this connection. In 1820 Coindet recognized that the beneficial agent in most preparations used in the treatment was iodine. In 1850 Chotin in a series of articles presented evidence that the use of iodine would prevent cretinism and endemic goitre. In 1904 Kocher in an article emphasized the necessity of sufficient iodine for the proper functioning of the thyroid gland, and presented evidence that some goitres could be made to disappear by its administration. Even in this early time he recognized that it was indicated in the goitre of childhood and adolescence, but warned against its indiscriminate use. In 1910 and 1911 he again discussed the subject, and because of the many ill effects noted in the adenomatous type of goitre, he again sounded a warning, and as a result of its use was discredited in all types, although he noted no ill effects when used in exophthalmic goitres.

Hare, in his system of medical therapeutics, states that in 1881 McGuire reported a case of exophthalmic goitre greatly benefitted by the cataphoric use of iodine. Meisser, in 1920, reported seven cases of exophthalmic goitre benefitted by the administration of iodine, and Zandek in 1921, reported twelve more cases with metabolic readings showing a lowered oxygen consumption as a result of iodine medication. Boothby, in an article appearing in Mayo's Clinic of 1924, goes more exhaustively into the historical aspect of the subject; and much of the brief survey I have given appears in his publication.

Our conception today of the value of iodine is largely dependent on the work of Plummer and his co-workers at the Mayo Clinic.

Plummer's classification of goitre is essential to the proper consideration of the subject, as a basis on which to interpret the results of iodine treatment. Nine distinct varieties are mentioned: (1) Diffuse colloid goitre; (2) Adenomatous goitre without hyper-thyroidism; (3) Adenomatous goitre with hyper-thyroidism; (4) Exophthalmic goitre; (5) Myxedema; (6) Cretinism; (7) Childhood Myxedema; (8) Thyroiditis; (9) Malignant disease of the thyroid gland. Only the first four of these diseases are important from a standpoint of iodine treatment.

Marines' investigation and experimental work on animals has been most valuable in developing our present ideas on the etiology and pathology of endemic goitre. His conclusions that deficiency of iodine during the developmental stage brings compensatory changes in the thyroid gland that forms a basis for the development of goitre is most convincing. He states: (1) That all thyroid enlargements begin as active work hyperthrophy and hyperplasia; (2) Involuntary or restitutional changes occur in most cases spontaneously, or, are caused by the administration of iodine, colloid goitre resulting; (3) Exhaustion atrophy occurs in a few cases, the follicles disappearing, the gland becomes sclerotic, Myxedema, or, cretinism developing; (4) That nodular or adenomatous goitre begins during the first stages of compensatory hypertrophy because of different rates of growth, and that these nodules tend to repeat the same morphological cycle as non-adenomatous tissue; (5) That thyroid hyperplasia (goitre) is a compensatory process dependent upon a relative or absolute deficiency of iodine. Colloid goitre is the type of goitre seen developing in this country in adolescence. Adenomas synchronously appear. As age advances there is more likelihood of them being present, and the probability of doing damage by the use of iodine becomes increased.

As a prophylactic against goitre, iodine can be used in children with great benefit, and usually it can be used safely, especially in this country. In certain sections of Europe where endemic goitre has existed so long there seems to be a greater frequency of adenomas occurring early in life and harmful results may occur. These adenomas cannot always be detected if small. There is no evidence that iodine

does harm if given to an individual with a normal thyroid. It is safe to give it to an individual with a colloid goitre up to the age of twenty, except in those with markedly evident adenomas. Beyond the age of twenty many cases may be rendered toxic because of the almost certainty of the presence of adenomas which have developed in the colloid gland. The danger increases with age.

A method of iodine administration which affects the entire family or population as in the use of iodized table salt, or iodized water is inadvisable. Its use should be limited to its definite prophylactic administration to school children. The size of the dose is not the thing of importance. The presence, or, absence of certain types of goitre in the individual is of importance.

Kocher first called attention to the harmful effects of iodine administration to individuals with adenomatous goitres.

There is not a goitre clinic that does not see several of these cases each year. Hyper-thyroidism developing as a direct result of iodine administration in people who have carried simple adenomas for years, activity which, when once aroused does not subside when iodine is discontinued. Is the over supply of iodine always the cause of simple adenomas becoming adenomas with hyper-thyroidism? It probably is. Mayo says: "The iodine in the food supply and drinking water varies markedly and there seems to be pretty conclusive evidence that they are responsible for the goitre becoming toxic, that, have existed for years without activity."

After hyperthyroidism has been initiated whether or not as the known result of iodine, the withholding of the iodine does not usually decrease the functional activity of the adenomatous tissue. On the other hand the giving of iodine to a patient already presenting hyperthyroidism even though intensely so, seems to do no harm for a week or ten days, although continuous administration might do so. In a small percentage of cases it is impossible to differentiate adenomas with hyperthyroidism from exophthalmic goitre.

As a practical therapeutic measure when in doubt preparatory to operation it is advisable to give iodine even though the case is one of adenoma with hyperthyroidism, while, if the diagnosis is exophthalmic goitre the operative risk will be greatly reduced.

The first extensive study of the effects of iodine in exophthalmic goitre was reported by Plummer in June, 1923, before the Association of American Physicians. He reported four hundred cases with metabolic readings, in which iodine had been given to patients with exophthalmic goitre and showed the great value of iodine in reducing the metabolic rate; in bringing such patients almost immediately out of the dangerous cerebral or gastro-intestinal crisis; and in lessening both the medical and surgical mortality. No patient with exophthalmic goitre was made worse by its administration. The drop in the metabolic rate though cannot be maintained indefinitely. Within a few hours a patient brought in moribund with the cerebral and gastro-intestinal crisis is definitely improved. Plummer says, "that the effect is as startling and gratifying and fully as certain as that of insulin in diabetic coma." Star and Means of Massachusetts General Hospital have confirmed his report in a large number of cases. Mason, before the Association of American Physicians in 1924 presented similar results at the Royal Victoria Hospital in Montreal.

In the past four years practically every goitre clinic has adopted the use of iodine, not only in exophthalmic goitre but in all other forms preparatory to operation.

It is hardly necessary in this paper to go into differential diagnosis between adenoma with hyperthyroidism, and exophthalmic goitre, although it might be well to emphasize the fact that the two conditions may be co-existent. "Plummer's explanation of the difference in the clinical syndrome of adenomatous goitre with hyperthyroidism and exophthalmic goitre rests on the conception that in the former constitutional symptoms are due to an excess of normal thyroid secretion in the tissue and cells whereas, in the latter as the result of an intense and, as yet unknown stimulation of the thyroid gland, the quantity of thyroid secretion in the cells of the body not only is increased, but that a certain amount of it is imperfect." His supposition is, that the thyroxin molecules are not completely iodized.

Lugol's solution is the preparation most used, and the only one that I have had experience with, except sodium iodide, in the goitre of adolescence.

In all cases of exophthalmic goitre we have operated in the last four years we have started the cases on ten drops of Lugol's solution, three times a day for five

days, then fifteen drops for five days. The effect is truly startling, the pulse rate comes down, the tremor becomes less marked, the nervous tension of the patient is lost. Appetite, though usually good is better, weight increases and the metabolic rate drops rapidly. By the eighth or tenth day the maximum effect seems to be reached, and we have a patient converted into a safe risk for operation. We have had very few ligations or multistage operations during that time, and in no patient has there been a marked post-operative crisis. Exophthalmic goitre cases have become much safer operative risks.

Before using it in all cases, the mixed types were the ones that gave us the most concern from an operative standpoint.

That mixed cases do occur is certain; that some cases of goitre, adenomatous in type, do develop true hyperplasia of the surrounding gland has been observed by microscopical examination. Because of this and because experience has demonstrated that adenoma with hyperthyroidism definitely improves under iodine medication, we have in the past two years used it prior to all goitre operations.

The greatest trouble we are having now with our operative cases, is with cases that have previously had iodine used in treatment. These have had their temporary improvement and do not again respond, although experience seems to show that in them with large doses of iodine we secure in a measure protection from the post-operative reaction. It is in these cases that multistage operations may be advisable.

There is another important field for iodine medication to which I wish to call your attention. The pregnant mother with the frequent enlargement of the thyroid gland should be remembered. This is another type of goitre due to an iodine deficiency resulting from the extra demand due to the development of the offspring. Iodine administration in these cases may prevent the terrible tragedy of cretinism, or other developmental anomalies as well as act as a prophylactic against goitre in later life.

The public is hardly awake to the wide spread prevalence of goitre nor to its menace, not only in those immediately around us but to the future generation.

Iodine used properly has not only been a great help in dealing with some of these problems but may be of great value in checking the increase of the disease.

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THE SPLEEN, ITS RELATION TO THE RETICULO - ENDOTHELIAL SYSTEM, SURGICAL INDICATIONS AND TECHNIQUE

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Aside from an occasional splenectomy for a few illy understood types of splenomegaly, and as an emergency operation for splenic hemorrhage, it is only within the last decade that the organ has become anything like a surgical problem. It is that even yet. That it could be removed without noticeable deleterious results had been observed by the surgeons of an older surgical era. Even the ancients knew this and believed that the splenectomized runner had more endurance and better wind than the unsplenectomized. However, this may be in the normal individual, there can be no doubt of its truth in the various types of splenomegaly and since malaria was very prevalent in certain sections of Europe until relatively recent times, it may be that this belief had a certain foundation in fact, malaria being a well recognized cause of splenic enlargement.

In an experimental way, Macht and Finesilver have shown very lately that the speed of rats is increased by splenectomy.

The spleen belongs to, and is the largest organ of the reticulo-endothelial system to which belong the tonsils and at the tail end of which is found the appendix.

Physiologically this entire system reaches its highest point of development during adolescence and declines during senescence. This senescence of the appendix misled the great Senn to coin the term "Appendicitis obliterans" which of course is not appendicitis at all but merely the physiological involution which this organ shares along with the rest of the lymphoid system. Still such an appendix can become diseased precisely as disease may be harbored in involuted tonsils.

Our knowledge of the physiology of the reticulo-endothelial system is very limited, but by and large we know it is to a degree hematopoietic. So it is that the surgery of the spleen in this later era is based upon and studied through blood dysfunctions and dyscrasias.

The results of experimental splenectomies by Pearce, Krumbhaar and Frazier, are summed up by Giffen as follows: "(1). The occurrence of anemia of the secondary type; (2) The production of leucocytosis; (3) An increase of the resistance of the erythrocytes to hypotonic sodium chloride solution and other hemolytic agents; (4) A lessened tendency toward hemoglobinuria and jaundice after the administration of hemolytic agents; (5) A decrease in volume of the portal blood; (6) The conversion of the bone marrow into red marrow and an actual increase in the volume of the marrow which can hardly be explained as merely compensatory to the anemia following splenectomy, and (7) Hypertrophy of the lymphatic tissues which seems to be due principally to hyperplasia of the endothelial cells."

So much for the experimental work on animals. In man there is a very noticeable difference. In the removal of either the healthy or diseased spleen, the anemia does not follow, but there is a consistent leucocytosis. The toughness of the erythrocyte is increased.

The study of the physiology of the ductless glands to which class the spleen belongs is obscured by the line of approach which is indirect. The secretions of the duct glands can be studied direct, but the ductless must be arrived at thru blood chemistry and direct chemistry of the gland substance and extracts which must then produce certain physiological effects when injected into the tissues, blood stream or by ingestion. The margin of error is therefore much greater, and reliable data arrived at with much greater difficulty. While not a vital organ, the importance of the spleen is not to be underestimated because of its size and enormous blood supply. Nature is not wasteful in her methods and soon places non-used organs among the disappearing vestigals.

In a general way it is clear that at one end of the reticulo-endothelial system the new blood tissues are formed, while at the other end, worn-out elements are disposed of. Let us say as a working formula that these elements originate in the red marrow and meet their end in the spleen. While we do not yet know enough positively to say that this is exactly true, it will answer as a roughed in sketch.

Then it will follow that there will be two types of anemia broadly speaking: 1. Anemia due to exhaustion or inadequacy of the blood forming organs—primary or essential anemia. 2. Anemia due to a too rapid destruction of the formed blood—secondary anemia.

Viewing the situation in this way it will be easily understood that with rapid destruction occurring on the one hand, there will be a compensatory out-put on the other until the stage of exhaustion is reached when the blood picture of the two types will blend and the diagnostic difficulties become very great.

At the present time this formula is the broad working scheme of our clinic in differentiating surgical from non-surgical spleens.

SURGICAL INDICATIONS

1. Injury of spleen with uncontrollable hemorrhage.
2. Hemolytic jaundice.
3. Purpura hemorrhagica.
4. Splenic anemia.
5. The spleno-megalies.
6. Splenic tumors.

The first of these indications will be dismissed without discussion since on this indication all will agree.

Hemolytic Jaundice: The spleen in this type of jaundice is moderately enlarged and the anemia seems to be of almost the pure end-type, that is the destruction of the erythrocytes occurs faster than they can be formed. For this the spleen appears to be directly responsible. It is a jaundice altogether unlike the obstructive types—there is no over-flow of bile in the urine, and there is bile in the stools. However, as shown by statistics (Moynihan, Mayo) gall-stones will be found in about 50% of the cases. This is rather large to be considered coincidental. The relationship if any is so far unknown.

But the most significant finding in the blood is the fragility of the erythrocyte. This usually but not always disappears after splenectomy. Results of the operation is very striking and at this time seems to be fairly well established as the procedure of choice in a hitherto hopeless condition.

The presence of microcytes and reticulated reds in the blood indicates the strenuous efforts of the marrow to compensate for the abnormal destruction of the red cells. The blood forming organs are so hard pressed that immature erythrocytes, (like untrained reserves in a hard pressed army) are being rushed into action.

The two types of this disease, the first of which has been described above are:

1. The acquired.
2. The congenital.

The disease in either type is familial but in the former not necessarily congenital.

We are stressing hemolytic jaundice especially for the reason that it may be with our present lights, considered primarily as splenic disease and is amenable to splenectomy, therefore in the confusion surrounding so many of these blood dyscrasias, its diagnosis is of vital importance.

In closing the discussion of hemolytic jaundice we believe it to be of value to sum up the clinical and laboratory diagnostic points.

1. *Clinical*—Acquired form only considered.
   a. Jaundice, from slight to moderate, due to the pigment of the destroyed red cells, lemon yellow, never deep, with bile free urine.
   b. Recurrence of acute exacerbations with intervals of apparent well being; during these exacerbations mild to marked abdominal discomfort and sickness.
   c. Chronicity of the disease—patient apparently not very sick.
   d. Anemic appearance.
   e. Enlarged and palpable spleen.
   f. Presence of gall stones, secondary, 20 to 30%.
2. *Laboratory.*
   a. Low hemoglobin with red cells from 3,000,000 to 1,000,000 (rarely).
   b. Increase of reticulated reds and microcytes. The former may reach to the extent of 20%.
   c. Urobilin in urine and stools in greatly increased amounts.
   d. Fragility of reds indicated by decreased resistance to hypo-tonic salt solution. This is the *pathognomonic finding.*

Purpura Hemorrhagica: This is a distinct entity and must not be confused with the petechial and other hemorrhages incident to and occurring in other forms of disease. Spontaneous hemorrhages will occur in the advanced stages of obstructive jaundice, pernicious anemia, lymphatic leukemia, sepsis etc.

The characteristic feature of this disease is the striking decrease in the blood platelets. A reduction to 50,000 will be manifest clinically with petechia, 25,000 with spontaneous hemorrhages. In the petechia and hemorrhages of other exhausting or blood diseases, there is not necessarily a platelet decrease. With the secondary purpuras, this paper will not deal. With this elimination we may classify the disease as:

1. Acute.
2. Chronic.

Acute: A disease occurring in either sex, at any age, but favoring youth. Course can be measured in weeks and untreated is rapidly fatal. Since splenectomy is curative and the only effective treatment, diagnosis is most important.

Petechia will begin appearing sparsely on the skin of an otherwise healthy patient in the absence of prodromata or associated symptoms. There are no clinical symptoms other than the early petechia with the increasing weakness and anemia incident to the later, more massive spontaneous hemorrhages. The slight fever is probably due to the absorption of extravastated blood. The essential diagnosis points are:

1. Appearance of skin and mucous membrane petechia in successive crops, followed in the later stages by massive mucous membrane hemorrhages in an otherwise healthy patient, with the associated late anemia and weakness.

2. The characteristic behaviour of the blood clot. While the clotting time is not measurably delayed, it is incomplete and reclotting occurs.

Due to the platelet shortage, there is a weak thrombin reaction with slowed fibrinogen formation. There is no *clot retraction* because of platelet deficiency. Because of what seems to be a splenic attack on the blood platelets only, the other elements of the blood apparently escaping, there is no compensatory stimulation of the blood forming organs, hence young types of cells are not often found at least until successive hemorrhages have called

for this compensation—that is late in the course of the disease.

Chronic: It is thought by some that this is an entirely distinct disease from the acute, but the only essential difference is in the chronicity. Its course is a matter of years rather than weeks. Diagnostic features are essentially the same.

Splenic Anemia: In splenic anemia we are treading close to, if not actually, on that form of associated liver condition known as "cirrhosis" with splenomegaly. The term is used interchangeably with Banti's Disease. If there is a differentiating line, it is not yet clear. The clinical picture is that of deepening anemia with splenomegaly associated with first enlargement of the liver with later diminution in the size of the liver.

Gastric hemorrhages which occur rather late and which are often the symptoms bringing the patient to the consultation room are as a rule the result of rupturing venous varicosities. Ascites occurs late and is due to portal obstruction.

There is nothing characteristic in the blood picture.

Some very interesting questions arise in considering Banti's pertaining to cirrhosis of the liver. Is the cirrhosis of the liver the chronic interstitial hepatitis of the older writers and especially this condition as described in the older pathologies a separate disease or is it a part and parcel, one with the Banti or splenic anemia? Is the disease primarily hepatic or splenic?

The Splenomegalies — Banti excluded. There are, aside from tumors, which are rare, two sources of origin for the massive spleens sometimes seen, Gaucher's Disease and chronic malaria—the "ague cake" easily very common within the memory of many of us.

The differentiation of a malarial splenomegaly is at least in the moderately advanced cases not difficult. The differentiation of a Gaucher from a Banti is more difficult. The vesicular or so-called malignant cell to be found generally thruout the reticuloendothelial system, but accessible practically to splenic puncture are characteristic. The massive enlargement of the spleen as compared to the other forms is also outstanding.

It is familial of about 20 years duration and begins usually in childhood. It must not be forgotten that in advanced Gaucher, the liver will also share in the enlargement which adds a confusing factor as to Banti.

Splenic Tumors: Splenic tumors may be dismissed with the brief statement that they are rare, that any and all varieties of neoplasms are known to occur and that the diagnosis is rarely made before operation. One fact stands out rather clearly in regard to neoplasms of the spleen which may or may not be of significance, that is, the spleen is rarely if ever the seat of metastatic growths. The writer has never seen a splenic metastasis.

SPLENECTOMY—INDICATIONS

We have purposely avoided the discussion of such diseases as "primary" cirrhosis of the liver, pernicious anemia, myelogenous leukemia and aplastic anemia for the reason that splenectomy is still far aground in these conditions. Broadly speaking, splenectomy has not proven out in those anemias originating in the blood-forming portion of the reticulo-endothelial system. Its most striking results are to be seen in that end of the system which has to do with the disposal of the worn-out elements. It is extremely probable that the spleen has to do with both blood formation and blood destruction. When the latter function predominates in the destructive way, the former can be easily spared and can be well compensated for.

This is strikingly shown in *hemolytic jaundice* where the destruction of the erythrocytes seems to be directly due to the vicious action of the enlarged spleen. It is gratifying to know that the mortality rate is low in this condition.

It is very likely that the gallstones found in about 50% (Moynihan) of these cases is secondary rather than primary.

Another striking illustration is seen in splenectomy for *purpura hemorrhagica* (essential thrombo-penic purpura). The platelets which seem to be the point of attack are astonishingly rapidly replaced. My own personal experience would indicate that operation should not be done in the acute fulminating type of the disease if there is a prospect of carrying the patient to a more chronic stage. It is to be noted in Giffen's report from the Mayo Clinic (Surgery, Gynecology and Obsetrics, Nov. 1927) that in only 4 of the 20 cases operated had the disease existed less than two years. Their mortality in these cases was nil. Most of our cases had existed

but a few weeks to months and the mortality was forbidding.

In the *Splenomegalies proper*, surgery has no specific influence. It merely relieves the patient of a troublesome burden. The mortality as given by Klapp (Surgical Clinics of North America, August 1928) in Gaucher's disease is 20%. While high, it is to be remembered that this disease is not self-limited and usually terminates life within 20 years, which usually means in early adult life since the rule is, it begins in childhood.

We are considering splenic anemia (Banti's Disease) surgically last because some of the considerations which will stand out in a striking way here, will apply in the other conditions for which splenectomy is indicated. The operation is still on trial in this condition. Spontaneous hemorrhages are not uncommon. They will occur also after splenectomy. Cirrhosis of the liver is an essential part of Banti's and is most likely the reason for the hemorrhages in these cases both pre- and post operative. The term Banti's or splenic anemia doubtless covers a variety of obscure conditions of the reticular system. We can never be sure that we are making an early diagnosis, that is, we are never sure of our diagnosis early. We do not know whether the disease begins in the spleen or in the liver. What we do know is that when the diagnosis is made, cirrhosis is obvious.

That may be the reason for the poor showing splenectomy has made. We must look to the internists and the endocrinologists for an early diagnosis in order to properly evaluate splenectomy for this condition.

There will be recurrences of hemorrhages in hemolytic jaundice and purpura hemorrhagica following operation. It occurs to the writer that herein may lie the explanation.

Blood transfusion is of more importance following than preceding splenectomy for the reason that the removal of a sponge like and sometimes massive spleen will take with it often as much as 1500 c. c. of the patient's blood.

In our Clinic, blood transfusions as a treatment have not diminished the bleeding in any of these conditions. We believe the results of surgery will be much better in these splenic or perhaps better said, reticulo-endothelial disturbances when diagnosis is made early enough to avoid the cirrhotic processes in the liver which seem to bear an almost constant relationship of some kind.

TECHNIQUE

The surgical difficulty of the spleen relates to:

a. Hemorrhage — operative and post-operative.

b. The frequently poor operative risks offered.

The Bevan incision in left linea semilunaris with oblique upward and outward extension, ample in length to insure roomy accessibility, is preferable. After the clearing of the field and the packing away of the intestines, the next step is the mobilization of the organ. This, owing to the normal ligamentous attachments and acquired adhesions to the diaphragm is frequently the most difficult stage of the operation and will be associated with profuse hemorrhage, which until the spleen is delivered must be controlled with packs. In freeing the organ from the diaphragm, care is to be exercised against tearing into the splenic pulp for the reason that hemorrhage from this organ cannot be packed against and is only controllable when the pedicle is accessible. This is not accessible until delivery.

When freed from the diaphragm, delivery is easily accomplished and this exposes the pedicle at once. The pedicle containing the vessels may be clamped proximally and distally with rubber covered clamps or secured and cut between ligatures. Two things must be borne in mind.

a. Identify and guard the tail of the pancreas.

b. The friability of the vessels pedicle which demands gentleness.

When the spleen has been disposed of the diaphragm pack is to be gently removed under good exposure and bleeding points if any secured.

Now a search for a supernumerary spleen or spleens should be made. These are not uncommon. The writer once removed one in the right lower abdomen under the diagnosis of chronic appendicitis.

Finally a prompt post-operative blood transfusion if indicated.

"LYMPHOSARCOMA IN A CHILD"

JOHN W. RILEY, M.D., F.A.C.S.
OKLAHOMA CITY

This patient was admitted to St. Anthony's Hospital, Oklahoma City, Okla., on February 2, 1925. He was a Greek boy of 5½ years of age, born in this country, living in the country, and under fair conditions. His father was alive and well; his mother died about a year previously

of "pulmonary tuberculosis." He had one older brother, who was in excellent health.

During the summer of 1924, there were several cases of bloody dysentery in the vicinity of which the family lived. The patient and other members of the family suffered from this infection. Recovery from this disease was apparently complete.

In the fall of 1924, he developed diphtheria and was given antitoxin, and his recovery from this disease was apparently satisfactory. A short time after his recovery from the diphtheria; while playing with his brother an ironing board fell across his abdomen. He complained of considerable distress at the time of this injury and for sometime subsequently. This distress continued, and it was subsequently noticed that his abdomen was enlarging, his face and limbs were swollen, purpuric spots were noticed on the limbs; blood was occasionally seen in the stools, cough and bloody sputum, and very evident dyspnoea was observed. Previous to the enteritis of 1924, he was an unusually healthy boy.

In December, 1924, he was taken to a nearby hospital and an abdominal section was done with drainage of the gall bladder. Following this operation he was in the hospital eight weeks. There was no improvement in his symptoms.

On admission to St. Anthony's Hospital, he was obviously very anemic. His skin was a muddy, but not a lemon yellow color. His weight was fifty pounds. There had been no apparent weight loss. His face was swollen and the tibias showed pressure imprint. On the skin of both limbs were fading ecchymotic lesions. There was an obvious shortness of breath and a croupy cough. The abdomen and lower chest were markedly enlarged. The lower chest projecting anteriorly over a very distended abdomen. The abdomen showed a pigmented upper, right rectus scar. The skin of the abdomen was stretched and tense, and the outline of the liver and spleen could be seen.

Examination shows temperature 98.6, and a tendency to slight elevation; pulse 120; blood pressure 88-60. Teeth and tonsils, normal. Lymph nodes, normal. Cyanosis of the lips and nails. Respiratory sounds were loud and rasping, associated with coarse rales. Heart appears slightly enlarged, heart sounds and muscle tone normal. Liver dullness extends from the fourth rib to the crest of the ilium, the left lobe could be felt just above the navel. The spleen is easily felt and extends 8 cm. be-

BLOOD

Date	Hgb.	Dare	Red Cells	White Cells	Index	P.	L.
2- 8-25	40%	dare	2,630,000	1,900	.7	40	64
2- 9-25	27%	dare	2,450,000	1,650	.7	35	65
	40%	talq.					
2-12-25	33%	dare	1,750,000	1,500	.9	43	57
2-16-25	28%	dare	1,700,000	1,750	.8	48	52
2-18-25	29%	dare	1,810,000	1,350	.8	35	65
2-20-25	30%	dare	1,700,000	1,650	.8	61	39
2-23-25	30%	dare	1,890,000	2,950	.8	57	43
2-25-25	33%	dare	2,090,000	3,700	.8	56	44
2-28-25	35%	dare	1,940,000	2,650	.9	65	35
3- 6-25	40%	dare	2,750,000	2,250	.7	63	37
3-23-25	45%	dare	2,470,000	3,900	.9	46	52

low the costal margin. There was a tympantic note over the abdomen and left flank. The veins of the abdomen were distended. The scrotum was slightly edematous.

Transfusion was done by the syringe method, using the father as donor. His anemia had increased because of uncontrollable epistaxis.

TRANSFUSION

2-12-25— 20 cc. blood—no reaction.
2-14-25—150 cc. blood—no reaction.
2-18-25—200 cc. blood—no reaction.
2-24-25—150 cc. blood—no reaction.
3- 4-25—210 cc. blood—no reaction.
3-11-25—150 cc. blood—reaction.

About February 20, 1925, patient complained of sore throat and culture showed fusiform bacilli. In 48 hours both tonsils, pharynx and uvula were covered with greyish exudate; and great shreds of this material hung from the soft palate and uvula.

A 10 per cent copper sulphate solution was used as a gargle and the membrane disappeared entirely after the last dose of neosalvarsan. The patient showed considerable improvement for a few days viz: edema was practically gone and the spleen and liver on measurement showed very obvious decrease in size.

On March 24, 1925, his condition became worse and he developed evidence of a broncho-pneumonia. This process gradually progressed and he died on March 26, 1925.

A definite diagnosis was not made, but all evidence pointed toward a malignant process.

AUTOPSY

The body is that of a boy of five and one-half years of age. There is a marked pallor of the skin, puffiness of the face, hands, legs, and scrotum as a result of the edema. The abdomen is very markedly distended — contrasting quite noticeably from the practically normal condition of the upper chest. The veins of the abdominal wall are distended.

Primary incision from the sternal notch to the pubes. On opening the abdominal cavity, the liver presented itself being very markedly enlarged, filling the upper right abdomen and extending over the left to the splenic area. There were quite firm adhesions present, due to the previous operation. Some scarring about the fundus of the gall bladder, which seemed to be thin walled and normal in every way.

Neo-salvarsan was given:
2-23-25— .1 grm.
2-27-25—.12 grm.
3- 4-25—.15 grm.
3- 4-25—.15 grm.
3-11-25— .2 grm.

URINE

2-8-25		2-10-25	2-16-25	2-23-25 P.	2-28-25 P.	3-25-25 Pl.
Color	Yellow	Turbid	Milky	Yellow	Yellow	Yellow
React	Acid	Acid	Acid	Acid	Acid	Acid
Sp. G	Q.N.S.	1,021	1,016	1,019	1,013	1,024
				slt.	ft.	
Albumen	÷	0	trace	trace	trace	÷ 8
Glucose	0	0	0	0	0	0
Acetone	0	0	0	0	0	0
Indican	0	0	0	trace	0	÷ 1
Diacetic						
Diazo						
R. B. C.	0	0	0	occas	0	few
W. B. C.	0	0	0	occas	0	occas
Casts	0	0	0	0	0	0
Cryst	amor. urates	amor. urates	very many	amor. urates	amor. urates	
Organisms	few	few	few	many	few	few
Cells	0	0		0	0	0

FECES

	P.M. 2-13-25	2-13-25	2-14-25	2-19-25	2-23-25
Color—Yellow					Dk. brown
Consist	semi-solid				semi-solid
React	acid				Sl. acid
Mucus	0				Small amount
Pus	0				0
Blood	0	0	0	0	0
Fat—many fat acid cryst					Ft. trace
Bile plus four					plus four
Bact. many					many
Parasites—none found					none found
Food—no neg. cells found					0
Blood Wassermann—negative					
Hecht Gradwohl control—negative					

Liver weighed 2160 grams and was of a pale red color and had a white nodule present on the surface. The liver cut easily and the structures showed nothing particularly abnormal in gross appearance. A section was taken from the left lobe and also from the area where the nodule was present and was sent to the laboratory for microscopic study.

The spleen presented itself as an enlarged, purplish organ, with some adhesions present and it weighed 600 grams. It cut with more than normal resistance—section of which was taken for microscopic study. There were two small accessory spleens, one about the size of a cherry, and the other slightly smaller.

The abdomen contained only a moderate amount of fluid; some flecks of lymph about the coils of the intestines; no evidence of peritonitis. No tubercular condition found at any point in the abdomen. There was moderate enlargement of the retroperitoneal lymph nodes in the upper

abdomen—two of these were removed for microscopic study.

The stomach was opened and it was negative. Pylorus was negative. The small intestine showed some agglutination of the coils—suggestive of a possibility of some slight obstruction. The large intestine showed slight dilation of its first one-half. The descending colon was empty, as was also the rectum, and contracted. There was some scarring of the transverse colon

which may have been due to the previous operation.

The kidneys were enlarged to an almost unbelievable size. The right kidney weighed 740 grams; the left 750 grams. They resembled each other very closely These large masses encroached upon the abdominal cavity. They showed fetal lobulations. The capsules stripped easily and the appearance of the kidneys on all aspects was mottled, reddish, with hemorrhagic and white areas. On section the kidneys were found to be solid structures, except for dilatation of the pelvis, it not being enlarged quite in proportion to the size of the parenchyma. Discoloration of the kidneys was present throughout the parenchyma of the kidneys. Section was taken for microscopic study. There were no nodules in the kidney structures.

Ureters—negative. Bladder—negative. Pancreas—negative. Chest—heart about normal size. Pericardial sac contained a moderate amount of pericardial fluid. There was a small amount of free fluid in the pleural cavity. The lungs showed some terminal pneumonic process in the posterior aspect, which was more noticeable on the left. This is undoubtedly relative to the fact that during the last part of his life he lay on the left side almost exclusively. Lymph nodes of chest were not enlarged. No nodules in the lungs. There was no evidence of tuberculosis .

St. Anthony's laboratory report on specimens — examination of the specimens showed lymphosarcoma.

Sections of liver, kidneys and lymph node were sent to Dr. A. C. Broders, Mayo Clinic, Rochester, Minnesota, and the following report was received:

"The sections of the liver and kidneys show extensive lymphosarcoma. There is also involvement of a lymph node. The section of spleen shows marked congestion associated with peri-splenitis. This case probably belongs to the type of lymphatic leukemia that has not appeared in the blood (aleukemic Leukemia.) Pathologists have pretty well agreed that lymphatic leukemia, lymphosarcoma and Hodgkins Disease are the same, with different manifestations."

The question arises in this case—"What relation did the trauma produced by the falling ironing board upon the abdomen of this child bear to the disease 'lymphosarcoma' that eventually developed?"

It occurs to me that this question cannot be answered until we know what causes lymphosarcoma or any other malignant process.

To offer it as an example of cause and effect without substantial evidence of proof, is in the opinion of the writer, mere guess work and unscientific.

THROMBOPENIC PURPURA

LEA A. RIELY, A.M., M.D., F.A.C.P.
OKLAHOMA CITY

The various physiological functions of the spleen are not definitely known and in medical history it has been given the properties which have been bound up with romance and mysticism. It is said the spleen has been removed from runners among the ancients to make them more fleet of foot because the giraffe has been found to have no spleen. The only faculty they seemed to have lost by so doing was the ability to laugh.

We know that the functions of the spleen are taken up by other organs. The reticulo endothelial system and the genesis of the lymphatic are so scattered about that the loss of this organ leaves the patient with perfect physiological harmony and no apparent discomfort or deficiency trouble.

I have had a few observations of patients after splenectomy where the eosoniphilia was quite marked, being as high as 25%. Osler reports one where it reached the astounding height of 80%.

Since the spleen enlarges so consistently with any blood stream infection we know that it must be an important factor in phagocytosis. Due to the fact that it has so much hemosiderin deposited within it in hemolytic anemias and thrombopenias and the removal relieves the anemia it has been dubbed the "graveyard of the red blood cells."

Eppinger has even given the spleen endocrine function and calls hypersplenism a condition analogous to hyperthyroidism wherein the thrombopenic and hemolytic functions are carried on to a pathological degree due to some hormone being secreted in a pathological degree. Danilewsky was the first to assert that the spleen secretes a substance, i. e. splenotoxin, capable of acting on the bonemarrow. The rapid anemia after splenectomy out of proportion to loss of blood suggests that some such substance has temporarily ceased to be formed. A single dose of splenic extract given intraperitoneally will induce a rise in red cells and haemoglobin content in dogs who are not dangerously anemic. (Moynihan, "Spleen and some of its diseases".)

As regards the part of the bone marrow concerned with the formation of white cells it has been suggested that there is normally, a restraint of its activity through some substance secreted by the spleen.

Increased activity of the spleen leads to increased formation of leucosplenins and therefore consecutively to diminution in the number of white cells in the blood. After splenectomy there is a leucocytosis due to the removal of this restraint. In case II, there is an entire absence of polymorphonuclears and platelets with an enormous spleen. Evidently some form acting on the precursors of the blood element.

The part played by the spleen in the formation of red blood cells and neutrophilic leucocytes in embryonic life is everywhere admitted. In adult life the connection is usually only demonstrable under the influence of infections and in the various forms of splenic enlargement. Frank thought that an endogenous toxin arising in the spleen might give rise to lack of blood platelets also resulting in a hemorrhagic diathesis which is named "Essential Thrombocytopenia." Since hemorrhages were common to this condition and a plastic anemia he went further and tried to establish a close relationship between the diseases. In the former the action is directed against the thrombocytes and in the latter case, i. e. aplastic anemia, its action was extended to the granulocytic elements and their forerunners a condition which he called hemorrhagic aleukia. Frank hence puts the third corpuscular elements as a prime factor in hemorrhagic diathesis. Klinger in Sahlis Clinic opposes that view and explains the tendency to hemorrhage and thrombocytopenia as parallel manifestations which stand in no direct relations to each other.

(Minot gives this bit of history of Idiopathic. Thrombocytopenia: "Werehof in 1733 first differentiated the condition from other varieties of hemorrhagic diseases. In 1887 Denys noted the platelet reduction. Hayem and Bensande and Rivet called attention to the chronic type of the disease and Kaznelson first showed the striking results that follow splenectomy.")

Morrison and Lederer, in American Journal of Medical Sciences of November 1928, explains that the lack of cure of these cases, or a later return of the symptoms is due to supernumerary spleens or splenic structures which is left in the abdomen near the organ removed.

McElroy says that Kaznelson brings a grouping according to the mode of origin of the thrombocytopenia.

In one case there is an injury to the mother cells of the bone marrow with deficient regenerative power; in the other, there is an extramedullary destruction of the thrombocytes in the reticulo-endothelial system. This classification is based on histological evidence.

Aplastic anemia shows no megacarocytes in the bone marrow and no evidence of thrombocytes or myeloid elements in the spleen.

Thrombocytopenia shows megacarocytes in the reticulo-endothelial system, especially of the spleen.

In aplastic anemia splenectomy has no therapeutic effects while in Essential Thrombocytopenia the effects of splenectomy are brilliant where no supernumerary spleens are left to furnish a return of thrombocytophagic function.

Dr. J. B. McElroy	Aplastic Anemia	Essential Thrombocytopenia
I.—General symptoms:		
a—Color of skin	Alabaster white	Variable
b—Skin and mucous membrane hemorrhage	Usually pronounced	Periodical occurrence with free intervals
c—Mouth cavity	Frequently gingivitis Stomatitis, angina necrotans	Numerous small hemorrhages almost always gingivitis
d—Spleen	Often small, not palpable	Enlargement may be present
e—Urine	No urobilinuria	Often urobilinogen
f—Gastric secretion	Often disturbed	Usually normal
g—Stool	Very slight urobilin content	Normal urobilin content
II.—Blood Findings:		
1. Morphology	Oligocythemia, progressive	Number variable
a—Erythrocytes	Poikliocytosis, polychromasia; reticulated cells absent	Often evidence of regeneration
b—Leucocytes	Leukopenia, marked reduction of granulocytes, relative lymphocytosis	Often leucocytosis differential count shows nothing distinctive
c—Blood platelets	Pronounced thrombopenia (adrenalin and splenectomy do not produce an increase of thrombocytes)	During attack marked thrombopenia; after adrenalin and splenectomy an increase of platelet
2. Stasis experiment	Skin hemorrhages	Skin hemorrhages
3. Bleeding time	Markedly prolonged	Prolonged during attack
4. Retractility of clot	Absent	Absent
5. Color index	Usually one	Below one
6. Bilirubin content	Reduced	Normal

The haemotologist is ordinarily the one who sees these cases before turning them over to the surgeon and the question of diagnosis is one of prime importance since the spleen is very seldom primarily involved but is secondary to tuberculosis, syphilis, carcinoma, the chief symptom in Banti's syndrome, pernicious anaemia and the legion of infective disorders with splenamegaly, familial jaundice, Gaucher's cirrhosis, polycythaemia, et al.

CASE I.

C. C. C. Male, aged 48, married. No history of rheumatism, swelling or painful joints. Malaria 20 years ago while living in Arkansas. Had an attack of acute abdominal pain in right lower quadrant 18 years ago, with nausea but no vomiting. Arises at night to urinate about 5 A. M. Nervous temperament, poor sleeper, smokes a pipe, constant drinker, never drunk. No veneral history and negative Wassermann.

Father died of stomach trouble. Mother died of lobar pneumonia. One brother died of tuberculosis. One uncle had diabetes. No history of bleeders in the family.

For past fifteen years patient has had gastrointestinal upsets. Pain would come on after eating in one to three hours, eructation of gas very frequent. Two years ago had attack of "bloody flux" lasting two weeks during which attack he vomited blood and passed frequent bloody stools. This was attended with abdominal cramps.

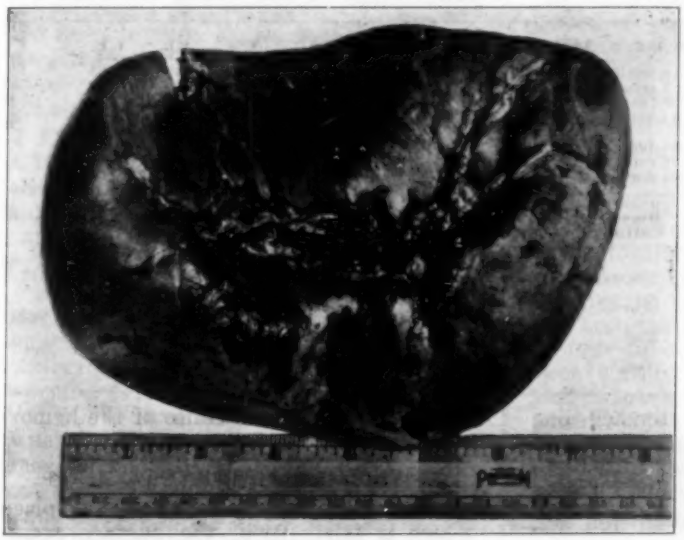
The past spring, patient spit blood at intervals for one week, coughed occasionally but not productive. Noticed blood in stools at some time. There was no acute disease noticeable then.

Condition cleared up until about one month ago when he again began to have bloody sputum. This time he gave history of upper respiratory trouble either before or after the haemoptysis. The haemoptysis continued at intervals for one month and was accompanied with nosebleed and macroscopic blood in stool. He recently has developed petechial and ecchymotic spots in the skin most noticeable on his

extremities. Spleen not palpable. Tourniquet test or capillary test (Rumpel-Leede) positive. Blood pressure 138-80, pulse 80, afebrile while in the hospital. Urine negative except slight trace of albumen and a few red blood cells. Physical examination essentially negative.

X-ray report of chest: Heart normal size, shape, and position, right side diaphragm negative. Some generalized fibrosis throughout all lobes. Increased density of few small nodules of all lobes. Left side diaphragm negative. Generalized fibrosis with increased density of few small nodules both lobes.—*J. E. Heatley.*

Reported sputum examinations negative for tubercule bacillis. Stools negative for parasites but positive for blood.



PICTURE OF SPLEEN REMOVED IN CASE II.

Blood type 4.

Blood Examination: Hbg. 78; Coag. time 6'50"; RBC 4,570,000; Anisocytosis and polychromatophilia. Blood platelets 67,500 with a control of 400,000, another time blood platelets 70,000 with a control of 310,100, at another time blood platelets 47,500 with a control of 215,000. WBC. 7,650; neutrophiles 78; large lymphs 3; small lymph 19; bleeding time 15 minutes. Clot non retractile.

A diagnosis of essential or recurrent thrombocytopenia was made upon the history and physical examination and laboratory findings to-wit:

Hemorrhages in skin and mucous membranes, blood in sputum, urine, feces; positive capillary resistence test, normal coagulation time, i. e., 4 to 6 minutes, prolonged bleeding time, (25 min.) slight retractility of clot. Platelets 76,500 as composed to normal control. Recurrence of symptoms from time to time.

The above diagnosis was concurred in by Dr. Long, Langston and myself and a splenectomy advised. He immediately left the hospital to seek less radical treatment but was operated in a few days at another clinic with relief of all symptoms and doing well and vigorous today with no recurrence of the bleeding. Operated 11-10-25, blood count taken: 3-25-26; RBC. 3,600,000; WBC. 10,150; P 64; small lymph 23; large lymph 6; F. 7; E. O.

Blood count taken: 1-8-27; RBC. 4,550,000; WBC. 13,200; P 62; small lymph 22; large lymph 11; F 2; E 2.

CASE II.

L. E. R., male, age 51, married for 28 years, four girls living and well. One boy dead, cause unknown. Mother living at 75, father dead of pneumonia at 46.

Served in the army. Blacksmith for 21 years. Has small truck farm and orchard now. Has muscular and joint pain in mild degree since out of the army. Weighed 192 pounds six months ago. Looks as though he would weigh 160 pounds now. Uses alcohol very seldom, tobacco not at all. Denies veneral history. Had influenza and pneumonia in 1918. Scarlet fever at 12 years of age. Diphtheria at nine years.

Gives history of not feeling very well for past two years but was seized four weeks ago at night with sudden sharp pain in the back (11-12 dorsal vertebrae) which radiated toward the sternum but pains throughout the entire chest. These pains left chest and then centered in the middle third of the left femur feeling like the bone was being broken. In one hour the pains had practically all disappeared, he became quite comfortable and went to sleep.

Another similar attack four days later lasting one hour. A third attack affected the chest alone with sternum and ribs still quite tender. One week before entering hospital, he noticed bleeding from

gums and bright red blood in his stools. Thinks he has passed a quart of blood from each place. Has had a dry hacking cough for past 30 days but no hemopty-

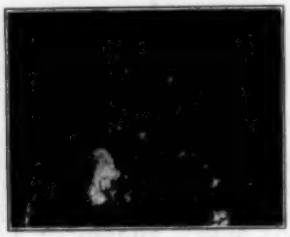


FIG. 1.
Low power of the Spleen showing the disarrangement of the general structure, and the hyperplasia, atypical morphology and arrangement of the parenchyma.

sis. Had a severe pain in stomach one week ago lasting only a short time and not attended with any digestive disturbances or materially affecting his appetite.

Temperature ranged between 100 and 104 3-4 but three blood cultures taken both aerobically and anaerobically were reported negative.

He entered hospital 9-5-28 with slight pain and tenderness over the bones, especially sternum and left femur, bleeding from gums and bowels, numerous dark blue petechial spots affecting mainly the extremities, very few on the torso. Later he had petechial showers on the torso. Heart sounds were weak but do not show unusual sounds. No physical changes in the lungs. Blood pressure 100/50.

No changes in the nervous system. Became more and more stuporous but would arouse and talk intelligently. Tongue became progressively dry. Bowels moved fourteen times first day in hospital but quieted down afterwards. Abdominal cramps slight. Abdomen slightly tender but more so in the upper left quadrant when a mass was palpated extending two inches from the edge of the ribs and down to the level of umbilicus with definite notch just below the ribs, most obviously due to an enlarged spleen. Definite ecchymotic spot on removing tourniquet from arm, i. e. capillary resistance test. (Rumpel-Leede.)

Patient was started on calcium lactate, grs. 10 every 3 hours. Was given 15 cc horse serum on 9-7-28. On 9-8-29 was given 400 cc of citrated blood intravenously. 9-11-28 was given 500 cc of citrated blood intravenously. 9-12-28 splenectomy was done by Dr. LeRoy Long but patient died three hours later from a massive abdominal hemorrhage. Spleen was easily removed but oozing from the bed

Date	R.B.C.	W.B.C.	Platelets	Coag. Time	Bl. Time	N.	S.L.	L.L.
9- 6-28	3,010,000	14,000				51	36	13
9- 7-28	2,820,000	7,600	23,419	9'	15'		40	60
9- 8-28	2,550,000	21,500		5' 15"		1	77	13
9- 9-28	2,220,000	14,000		12'		4	10	60
9-10-28	2,050,000							
9-11-28	2,250,000	21,400		3' 50"	15'		59	34
9-12-28	2,310,000	26,000				1	20	18
9-12-28	2,030,000	26,200		4' 40"	15'	0	35	64

Date	Other Cells	Retic Reds	Blood Culture	Transfusion	Urine	Highest Temp.	Condition	Clot.
9- 5-28					No. RBC	100. 2 R	Weak	
9- 7-28			taken	450 cc.		103 8 R	Fair	No Ret
9- 8-28	Deg. 8				Neg.	103 8 R	Weak	
9- 9-28	T6 D10		taken			104 6 R	Weak	
9-10-28				500 cc.		103 R	Weak	
9-11-28	LM7		Neg.			103 2 R	Weak	
9-12-28	T26 M36	none			Alb. T.	104 R	Weak	No Ret
9-13-28	M1		Neg.				Weak	

of the spleen was the cause of the hemorrhage.

PATHOLOGIST'S REPORT—DR. JETER

The gross specimen consists of a spleen which is fairly firm, the surface somewhat lobulated, purplish gray, and rounded, size 25x15x8 cm. The capsule is tense. The cut surface is fairly firm, reddish purple, bulges and the pulp scrapes easily.

Microscopical examination shows an abundance of distinctly atypical, apparently premature type of lymphocytes, and scattered endothelial cells. There is a

FIG. 2.
Microphotograph, high power same as Fig. 1.

slight fibrosis and generalized thickening of the trabecula. The normal structure and arrangement is distorted, apparently as the result of an enormous increase in the lymphocytic type of parenchyma. There is a deposit of scattered masses of dark brown pigment. The broad sinuses are not markedly injected.

Diagnosis: Splenomegaly (toxic type.) H. J. Jeter.

Fever is the rule in the more acute and severe cases like this and it runs a rapid and riotous course, in this case about three weeks. No symptoms or signs but what occurred except those due to hemorrhage or anemia. The severe pains in the chest and in the femur may have been due to periosteal hemorrhages. Minot says the chronic type shows less tendency to permanent recovery than acute, although some patients may even last a life time but the condition tends to become gradually worse.

If a given attack does not show signs of abatement within a few weeks an unfavorable outcome is probable but death or much less often, recovery may be delayed many months.

In both cases you have the history of severe abdominal cramp such as are characteristic of Henochs purpura. These hemorrhages may begin abruptly without warning or even after some days of disability. In favorable cases the symptoms usually disappear within three weeks as unexplicably as they arose. In this case it was short and fatal with no let up in symptoms. In the intermittent type as in case one, the hemorrhages occurred and then amated only to come again until splenectomy when they ceased and he has been strong and vigorous ever since with no return in nearly four years.

BROMO SELTZER ERUPTION

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The dangers of poisoning or the possibility of death from the taking of Bromo Seltzer has been mentioned several times in the Journal, although such accidents are perhaps more frequent than reported in medical literature. The following case report may be worth while as an additional reminder of a need for more propaganda against the careless dispensing and use of such widely advertised drugs.

CASE REPORTS

Miss C. B., age 50, was referred by her family physician to Drs. Lain & Roland on June 18, 1927, with chronic granulomatous-like ulcers over her legs and below the knees.

History: Bromo Seltzer had been a family remedy in her father's home for the relief of headaches or to give rest since the patient was a child. She had used the drug for such ailments with increasing dosage and at shorter intervals until the present time when she confessed that its use had become a habit. She resolved several times to quit, and had ceased taking it one time for three months. A desire for the drug returned during a period of three or four years of poor health when her condition was diagnosed as tuberculosis. She was then confined in a sanitarium for two and one-half years. Her health improved when she had almost conquered the Bromo Seltzer habit.

Soon after returning home, while she was passing through the menopause, she felt a greater desire than ever for something to allay her extreme nervousness and insomnia and again resumed its use. During the last three or four months, she has been taking a heaping teaspoonful two to four times a day. She denied having been warned by any physician regarding the dangers of this drug. Luminal had several times been substituted for Bromo Seltzer, though this remedy did not seem to give her the same pleasing relief. About four or five months ago she noticed several deep red, elevated, slightly tender, nodular lesions developing over the anterior surfaces of the lower limbs. She also recalled that red papules frequently appeared over her face and back, but later disappeared. The nodules on the legs continued to grow larger until the overlying skin ruptured and the present ulcers appeared. She had not consulted a physician about her skin eruption until recently. Local applications were prescribed by her physician and it was suggested that the ulcers might be tubercular.

Examination: Patient has a dry, sallow, anemic-looking skin; is emaciated, extremely nervous and has but little desire for food. There is no cough, nor elevation of temperature though the pulse is soft and slightly quickened. There is no skin eruption above the knees excepting a few dimly pigmented macules scattered over the arms and back. Over the limbs

below the knees, there are several fungus-like, deep red, granulomatous, somewhat excavated, foul smelling ulcerations, varying in size from one to ten centimeters in diameter. From each ulcer there is a scant discharge of a heavy sero-sanguinous fluid, with not much evidence of a secondary infection. The ulcerations are larger upon the lateral side of the left leg though not more numerous than upon the right.

The ulcers are not very painful, nor do they have an extensive inflammatory base. After noting the character of the lesions and securing history of patient's previous illness with the habitual taking of Bromo Seltzer, a diagnosis of bromide ulcers was easily made. The patient was urged to discontinue the drug at once, to take warm baths frequently, drink plenty of water, and isolate herself from all company which might in the least irritate her sensitive nature.

Treatment consisting of daily intravenous administration of 10 c. c. of 2% solution of sodium chloride (as suggested by Wile[1]) was begun. Locally, wet packs of gauze containing cooling lotions were applied. After three days of such treatment, marked improvement of the ulcers was observed, and only a total of five doses of intravenous sodium chloride solution were given. Within eighteen or twenty days complete healing of ulcers had taken place, and only pigmented areas remained to mark their location. The patient has since been a total abstainer from all such sedatives, has gained twenty pounds in weight, and is in the best health she has enjoyed in many years.

Quigley,[2] first through The Journal of the American Medical Association, called attention to the dangers of taking Bromo Seltzer by reporting a case with symptoms simulating an overdose of both acentanilid and bromide.

The Journal[3] of February 10, 1906, in answer to an inquiry, published the formula of Bromo Seltzer as analyzed by the Committee of Chemistry and Pharmacy. Briefly stated, Bromo Seltzer contains approximately 10.5% potassium bromide, 4.5% acetanilid and 1.2% caffeine.

Robinson,[4] Journal of August 18, 1902, reported a case of sexual impotence, together with symptoms of both acetanilid and bromide poisoning from the habitual taking of Bromo Seltzer.

Hemenway,[5] December 1906, reported a death following an overdose of Bromo Seltzer to which had been added a second dose of acetanilid.

The Journal[6] in an editorial of July 16, 1910, entitled, "The Deadly Headache Powder," reported a death as the result of a large dose of Bromo Seltzer followed by a dose of antikamnia, taken for relief of headache.

Waugh,[7] has given the most complete case report of Bromo Seltzer poisoning we have found in American medical literature. His case was one of a generalized maculopapular bromide eruption with large, granulomatous ulceration upon the legs. Waugh's case was similar in many respects to the one herein reported, though he was more fortunate in seeing his case during the period of a generalized bromide eruption as well as the stage of ulceration upon the limbs.

Conclusion: Would it not be wise to prohibit by law the dispensing of any headache medicines or other depressing sedatives by soda fountain clerks? Should not the manufacturer of such drugs also be compelled to print in bold type upon the label of such remedies a precaution as regards the harmful effect of an over-dose or the avoidance of their habitual use?

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MANAGEMENT AND TREATMENT OF STIFF JOINTS

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When to break up adhesions and when not to do so is a subject that requires considerable more study than is generally conceded. Injudicious attempts to secure motion in a stiffened joint by forcible manipulation is likely to prove disastrous. Properly selected cases often render surprisingly pleasing results.

Pathology: The adhesions may involve the joint surfaces or may interfere with joint action by binding their existence about the synoviol membrane, muscular attachments, capsule and bursae.

These fibrous tissue changes are the result of inflammation, which may be of traumatic, infectious or rheumatic origin. Blood extravasation occurs, the periarticular tissues are thickened and contracted, muscles are bound to their sheaths by inflammatory exudate, and newly organized tissue envelopes the whole joint structure. Atrophic changes then occur, and must be given due consideration in the treatment.

Prognosis: The prognosis of overcoming stiffness in joints will vary according to the age of the patient and the pathological changes. In a child good results may nearly always be expected if the case is properly selected. In an adult persistent stiffness is much more difficult to overcome and relapse is more apt to occur.

Treatment: Management and treatment must be based upon a thorough understanding of the following:

1. The etiological factor.
2. Stage of progress in the condition.
3. Worthiness of outcome.
4. The type of ankylosis.

Etiological Factor: The etiological factor will often aid in determining the type of ankylosis. For instance one should know that manipulation is contraindicated if the infection is tuberculous, syphilitic, or pyogenic. Stiffness as the result of trauma may usually be successfully treated by manipulation. Arthritis or bursitis of a rheumatic nature often fails to respond to forced manipulation, although with care and as the result of experience many cases may be selected and improved. Gonorrheal joints may be manipulated in the quiet stage but results are very uncertain.

The Stage of Progress: A joint should not be manipulated when in the acute stage of inflammation. A time should be chosen when the congestion, extravasation and effusion had undergone absorption and organization.

Worthiness of Outcome: As to worthiness of outcome, a great deal will depend upon what the patient expects. One must also sometimes choose between the lesser of two evils. For instance there would be no advantage in producing a movable knee

that would remain painful; a totally stiff knee would be much more satisfactory.

Type of Ankylosis: Some of the more common types of fibrous ankylosis which respond to manipulation are as follows:

1. Shoulder: Fibrositis of traumatic and rheumatic origin characterized by limitation of abduction and rotation; often mistermed neuritis.
2. Ankle: Painful stiffness and deformity following a long period of disuse after injury.
3. Wrist and Hand: Limitation of gripping power following Colles fracture.
4. Knee: Following the long period of immobilization for a fracture, and adhesions from rheumatism and traumatic synovitis.
5. Foot: As seen in spastic flat feet and chronic gonorrheal arthritis.
6. Spine and Hips: Sacro-iliac and lumbar sacral adhesions.
7. Elbow: Following fractures into the joint in children and adults.

CONSIDERATION OF CERTAIN JOINTS

Shoulder: Trauma and disease should be considered separately in the management of stiffness of this joint. Because of the freedom of motion of the scapula, limitation of the shoulder joint motion is often misjudged. Antero-posterior motion is usually about normal. Extent of abduction can be estimated only when the scapula is fixed. Internal and external rotation is usually limited and can be tested by fixing the elbow in flexion and rotating the humerus.

Dislocation, falls on the outstretched arm, and fractures, are the chief causes. Injury to the shoulder should be looked for with Colles fracture, or after fractures of the clavicle.

Gravity plays an important part in causing stiffness. It is a great deal easier to bring the arm down than it is to raise it. After injury it is best to keep the arm in at least partial abduction. It should never be strapped tightly to the side, if it is possible to avoid it.

Disease: There is a form of insidious, progressive, sub-acute stiffness of the shoulder which seems to be just as much a clinical entity as that of the more severe diseases such as tuberculosis and syphilis. It is usually diagnosed as neuritis, because the pain is referred down the arm and sometimes is excruciating. The cause is focal infection aggravated by trauma. Usually the origin is from the teeth or tonsils. The pathology consists of fibrosis in the capsule and atrophy of the deltoid muscle. This condition is often present for many months previous to the time when comparatively mild trauma sets up acute symptoms of pain and stiffness. It is distinguished from true arthritis by having freedom of motion in flexion and extension but limitation of rotation and abduction. There is often no pain except when the arm is moved past its pathological limitations. Treatment of such a condition is treacherous. It must be managed in a much more cautious manner than traumatic stiffness. Foci of infection must first be removed. Physical therapy methods should be applied until all tendency to exacerbation from manipulation has disappeared. Gradual traction in bed by suspension and weights or an abduction splint are safer methods than manipulation. Forced manipulation should be carried out in two or more stages and followed by physical therapy.

Knee: In acute traumatic synovitis adhesions are formed in this joint more often than is generally suspected. The quadriceps muscle is often atrophic. It is not difficult to recognize the presence of severe adhesions but often there is merely a painful interference with completion of full extension or full flexion such as is seen when the synovitis has been due to a sprain instead of a direct injury. The adhesions in such a case are often in and about the tendons controlling the joint. Manipulation of a diseased knee joint is not successful and should not be attempted. Occasionally a gonorrheal knee may be manipulated but it is only indicated when there is good partial movement after all inflammatory signs have disappeared.

To manipulate the knee, place the patient so that the knee extends over the edge of the table. Free the patella first. Do not flex knee until patella is free. Hold the joint firm with both hands. Place the foot between the knees and start. Do not force the contracted extensor femoris to rupture. Start firmly but carefully to move knee in extension and flexion. Then rotate the leg by quick, firm movements. No splint is needed. Physical therapy and gymnastics should be started at once.

Ankle Joint: The most common injury to this joint is that of sprain. The next most common is fracture of the malleoli. In the treatment of sprain, immobilization

in a cast or in splints should not be continued for more than two weeks without instituting physical therapy treatment or permitting weight bearing. The bones and soft tissues of the foot become atrophic very quickly and there is a toxic fibrositis often superimposed upon the traumatic damage, which creates a painful ankylosis that is very difficult to overcome. The heel cord is often allowed to become shortened after sprains or fractures of the ankle and interferes with weight bearing until it is corrected by manipulation.

Manipulation of the ankle usually is not followed by a severe reaction. Manipulation under an anesthetic usually is sufficient to correct the deformity. Sometimes tenotomy of the heel is necessary. The foot and leg is put in a plaster cast extending from the toes to above the knee. The next day or as soon as possible, the patient should begin to bear weight and walk in the plaster cast. Physical therapy methods are of great assistance and the cast is bivalved for this purpose.

Wrist, Hand and Fingers: The wrist and fingers react severely after forcible manipulation and may become even more ankylosed following the operation. Favorable results may be obtained in many cases of stiffness which follow Colles fracture. The joints should be manipulated rather cautiously under gas anesthesia and repeated upon several occasions. A plaster cast may be applied for three or four days and heat and massage then begun. In some cases a splint may be applied and fingers gradually stretched by means of rubber bands upon adjustable pully. Active and passive exercises are a very important part of the treatment.

Foot: The foot responds to forcible manipulation extremely well. Even adhesions from inflammatory processes frequently may be broken up successfully. Gonorrheal rheumatism often produces extremely stiff, flat feet. Chronic cases only, should receive forcible manipulation. Each joint is stretched and twisted to normal flexibility. A cast is applied and the next day, or as soon thereafter as possible, weight bearing is encouraged. On the third day, the casts are split and physical therapy started. At the end of three weeks, Whitman braces should be applied to retain correction. Passive and active exercises should be continued for many months.

Spine and Sacro Iliac: The vetebral joints may often be forcibly manipulated with good results. Sciatica may sometimes be relieved by such procedures. Lumbar and sacro-iliac pain, when due to adhesions, may often be relieved. Deformity from arthritis of rheumatic nature may often be, to a certain extent, corrected by forcible manipulation. Such procedures must be carried out with utmost precaution and plaster jackets applied afterwards to maintain correction.

Elbow: The elbow does not respond well to manipulation. The reaction is usually severe and stiffness may be increased unless rigid follow up treatment of splinting and physical therapy measures are enforced. In children under twelve, stiffness following fractures in the elbow, will usually disappear within five or six months. In adults, even slight fractures in this joint sometimes produce marked limitation of motion. Multiple manipulation of mild force is better than too severe force.

Hips: The hip is not as easily ankylosed as the less movable joints. Abduction deformity is to be avoided. In tuberculosis or pyogenic arthritis the hip should not be manipulated. Correction by closed osteotomy is better. Manipulation after fracture of the neck of the femur is not advisable. The hip may be successfully manipulated in a very few cases of osteo arthritis. Extreme precaution, however, is necessary.

SUMMARY:

1. Closed, forced, manipulation is of great value in selected cases.

2. The joints of the body vary in their response to manipulative treatment and present characteristic features which should be thoroughly understood.

THE BOND OF HUMAN SYMPATHY*

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I come before you today with a message from one honored profession to another, and while I come with pride in the great profession to which I belong, I would have you know that this pride is chastened with humility. These two great professions which we represent have a common point of origin, an enduring bond in the "primal sympathy of man for man"—the desire to help those in sorrow, need and sickness.

The stern race of man has been gradually softened by the instinct of self-preser-

*Read before a joint meeting of Oklahoma State Nursing Association and the Oklahoma City Public Health Nurses.

vation, plus the longing to help a loved one and the passion of maternal love. In his wonderful discourse on the evolution of man Lucretius pictures the growth of sympathy "when with cries and gestures they taught with broken words that 'tis right for all men to have pity on the weak." The medical historian, Doctor Payne, said "the basis of medicine is sympathy and the desire to help others, and whatever is done with this end must be called medicine." In the light of this interpretation nursing in its truest sense is medicine.

It would be interesting, if we had the time, to review the history of medicine, and then discuss the system of trained nursing and its part in the prevention and treatment of disease. What a wonderful evolution this would reveal! Think of the poor savage in the latter part of the neolithic period, with never a thought of anesthesia, having holes picked in his skull with a rough piece of flint to let out the confined demons. Skulls with these disks of bone removed have been found in nearly all parts of the world. This is representative of primal sympathy as practiced before the "accidental discovery of copper in Egypt forged the instruments that raised civilization out of the slough of the stone age." Compare this procedure with the present decompression operation performed by a skilled surgeon with improved instruments in a modern hospital with complete anesthesia prompted by definite indications and safeguarded by all modern therapeutic means, including the trained nurse. This one example is sufficient to show the span of progress.

There have been important discoveries too numerous to mention, but pause for a moment to think of the significance of anesthesia; of vaccination; of the relation of bacteria to disease; of antitoxin or of insulin; but none of these outrank in importance the introduction and application of the system of trained nursing. Today all the enlightened forces of society are interested in and influenced by the trained nurse. She has measured the depths of human misery and suffering and plunged to the rescue.

On this occasion I am glad that I have the privilege of speaking to both the private duty nurse and the public health nurse; the one sitting at the bedside with trained mind and responsive hand, ready to administer the soothing, comforting, and often life-saving therapy; the other standing guard against disease and pestilence, thus safeguarding the homes of an unsuspecting public. Having rightfully placed your profession on this high plane, and having given you this "Pisgah sight", or "lift into the blue", I desire to sound a warning. In this day of material prosperity and organized effort you may be tempted to let go of the golden cord which runs without interruption from our common point of origin, the bond of human sympathy. "From point to point it still runs, and when near you feel it as the clear and bright and searchingly irresistible light which Truth throws forth."

The sick, both rich and poor, are better cared for today than ever before in the history of the world, and yet something has happened to disturb the relation between the doctor and patient and between nurse and patient. The service is more impersonal, the bond of sympathy is not as manifest as it used to be. In the medical profession this may be partly accounted for through the present tendency toward early specialization; mechanical and laboratory aids in diagnosis; hospitalization of patients; diagnostic clinics; group practice and highly specialized forms of treatment. After the patient receives all the knowledge and all the service that may flow through these channels, he is often left with a feeling that he needs a physician who is willing to sit at the bedside and bring to bear a sympathetic intelligent application of this knowledge to his individual problems; a physician who realizes that the human organism is still intact, constituting an integral part of society, possessing a human personality and having the right to demand consideration as a composite whole.

Just what has happened to the nursing profession, I am not able to say. I am sure there has been no wilful departure from the principles laid down by "The Lady with the Lamp", and yet something is wanting in the dreary hospitals of pain; the house of misery is not always cheered as you "pass through the glimmering gloom". You must not misunderstand me; I do realize that your profession means more today than in the days when Longfellow helped to idealize "The Lady with the Lamp". You did change the atmosphere of the hospital and the sick room. With you came cleanliness and comfort. sunshine and fresh air. You have a record which demands jealous keeping. You must not allow the present distracting influence to rob you of human sympathy. While

the people at large are doing more for the sick and the poor than has ever been done before, they are doing it in an impersonal way. They are contributing to the support of organized agencies whose salaried representatives dispense charity in a business-like manner. As a rule, those who contribute, are giving up no comforts; they are putting forth no effort. They may be inspired by human interest stories, but they are denied the reward which comes through personal service and intimate contact with those who are in need. In my opinion the psychological reaction to this situation, which has grown out of our material prosperity and organized efforts is threatening the bond of human sympathy, and pressing hard upon the heels of idealism.

You are most fortunate in that your service to humanity is so vital and so intimate that you are still in a position to practice what Portia preached.

EFFECT OF ANESTHETICS ON HEPATIC FUNCTION

Sanford M. Rosenthal and Wesley Bourne, Montreal (Journal A. M. A., Feb. 4, 1928), have undertaken to study the effects of various anesthetics on the liver, as indicated by bile pigment disturbances and by the bromsulphalein test for hepatic function. They found that brief periods of chloroform anesthesia are sufficient to produce immediate and delayed toxic effects on the liver; half an hour of chloroform causes injury that requires eight days for functional recovery, while two hours of anesthesia requires six weeks to return to normal. Disturbance of function could be demonstrated with the bromsulphalein test long after pigment metabolism had returned to normal. Ether produces a definite but transitory impairment of function. Recovery is usually complete in twenty-four hours. Nitrous oxide and ethylene administered through a mask did not produce any change in the bromsulphalein test for hepatic function or any disturbance of pigment metabolism. Nitrous oxide and ethylene given in a closed chamber with poor oxygenation caused both immediate and delayed toxic effects on the liver. Cyanosis in itself increases the toxicity of anesthetics on the liver. Large doses of morphine in dogs cause considerable depression of function, with complete recovery in twenty-four hours. Ethylene would seem to be the anesthetic of choice for operation in severe liver disease.

ENCEPHALITIS AS COMPLICATION OF MEASLES

J. H. Musser and G. H. Hauser, New Orleans (Journal A. M. A., April 21, 1928), report that during an epidemic of measles, 351 cases in all were seen by one of the authors, who was struck by the occurrence in some of the patients of various, rather irregular, neurologic symptoms. These symptoms were almost entirely observed in small children. They seemed to depend on irritation of the meninges with a concomitant increase in the intracranial pressure, or to be the result of pathologic processes in the encephalon. Eight of these cases came to autopsy. The striking feature of the condition when observed grossly was the presence of numerous discrete punctate hemorrhages throughout the brain. Microscopically, the observation peculiar to this type of encephalitis was perivascular hemorrhage about some of the small vessels of the brain. None of these cases presented any clinical or postmortem evidence of tuberculosis or of syphilis.

MENSTRUATION AND MENSTRUAL DISORDERS

Emil Novak, Baltimore (Journal A. M. A., Feb. 4, 1928), urges caution in the therapeutic application to human patients of the results recently obtained through studies in animals, valuable as these studies have been. His own results with folliculin therapy have left him doubtful of its efficacy, and this seems to have been the experience of others as well. In cases of hypofunction of the ovary, particularly in amenorrhea, it would be surprising if follicle injections in themselves were successful in restoring menstruation. It is much more rational to mimic what is believed to be the normal sequence of events, and to give a series of injections of follicle substance, followed by a series of injections of lipoid-containing corpus luteum extract. Novak's only encouraging results have been with this plan of treatment, which he believes to be far more rational than the injection of either follicle substance alone or corpus luteum extract alone.

REGENERATION OF BLADDER FOLLOWING RESECTION

On the basis of their experimental study, Herman L. Kretschmer and K. E. Barber, Chicago (Journal A. M. A., Feb. 4, 1928), assert that extensive resection of the bladder is followed by the formation of a new bladder The newly formed bladder fulfils completely the function of the old bladder in that it is capable of retaining the urine for many hours and of discharging urine in the normal manner. Incontinence as a permanent complication does not follow even the widest type of resection. From the histologic picture and its close resemblance to the normal bladder, it would appear that the newly formed bladder is the result of regeneration.

INJECTION OF PAROTID GLANDS WITH IODIZED OIL

Haddow M. Keith, Rochester, N. Y. (Journal A. M. A, April 21, 1928), reports a case of parotitis in which iodized oil was injected for diagnostic purposes He says that injection of the parotid glands with iodized oil may be carried out with from 0.5 to 1.5 cc. of the oil, a 10 cc. syringe and a steel needle with a rounded point used. With this method, the iodized oil will penetrate into the finer ducts of the gland, the iodized oil is removed within twenty-four hours The anatomic relations of the parotid gland can be demonstrated in a roentgenogram by this means, and abnormalities in the size and shape of the ducts can readily be made out.

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EDITORIAL

OKLAHOMA UNIVERSITY SCHOOL OF MEDICINE

The Medical Department of Oklahoma University has long been the pride of every Oklahoma physician acquainted with the pioneering and struggles of Oklahoma's citizenship. For a long time the University only maintained a two-year course, this was finally enlarged when it was seen that in order to be second to none, that is to attain class "A" rating, it would be necessary to go to great financial lengths in the construction of hospitals, school buildings and equipment. This has all been done. There are no laggards on the faculty and keeping up the interest of the University and maintaining them to the highest point at all times has been the aim of the individual faculty members. Elsewhere is a reproduction of the new, fine, modern, most thoroughly equipped and recently completed building housing the Medical School.

OKLAHOMA CITY'S HOSPITAL RESOURCES

The comparatively superb hospital facilities of Oklahoma City have more than kept pace with the astounding development in other great material resources of the city. From the earliest the city was fortunate in having as medical citizens men of great ability and foresight who planned and built for the future needs of a great city. It is doubtful if any other city with the exception of Rochester, population considered, can equal the hospital resources of our State Capital. Listed among the splendid institutions are St. Anthony's Hospital. This 200-bed institution was organized in 1899 by the Sisters of St. Frances and has since been operated by the order. Its departments are medical, surgical, obstetrical, X-ray diagnostic and treatment, orthopedic, occupational, laboratory, both diagnostic and research, and operates a training school for nurses, which school now numbers 80. This hospital also has a tuberculosis dispensary and is in close affiliation with the State University Medical School.

Wesley Hospital was organized in 1909 by Dr. F. K. Camp, now of Palo Alto, California. This hospital had its origin in a portion of a floor of a down-town building containing a few beds, operating room, etc., and was called St. Luke's Hospital. Later an apartment house was purchased and converted into a hospital, changing the name to Wesley Hospital. After the world war a group of physicians, who had been on the staff of the hospital, returned and organized the Oklahoma City Clinic, which bought Wesley Hospital and operated it until 1926, when a new 60-bed addition was built. The total capacity is now 115 beds. There are four operating rooms, clinical and X-ray laboratories as well as the necessary kitchens, dining rooms and business offices; a nurses' home accommodating from 50 to 75 nurses is now being constructed. The hospital holds an A-1 rating by the American College of Surgeons and the Clinical Laboratory is on the

accredited list of the A. M. A. The equipment is modern and is designed to supply the needs of a high class clientele. It is operated upon open hospital plan; has a visiting staff of some 40 or 50 Oklahoma physicians. It holds a round-table meeting each month.

State University Hospital is one of the largest general hospitals in Oklahoma City. The present buildings were opened in August, 1919, with 46 patients; since that time the general hospital has grown into an institution of 275 beds. The plan of operating provides for every needed department necessary to the practice of modern and scientific medicine. Two years ago the legislature appropriated $300,000 for the construction of the Crippled Children's Hospital, which has been built on the same grounds with the general hospital and in this institution there are now 100 available beds; when completed the entire organization will provide 450 beds. The clinical staff is limited exclusively to the faculty of the School of Medicine, consisting of approximately 80 members. There are only 20 private rooms in the institution, the remainder being devoted to the care of indigent sick. The institution is supported by state appropriation and in part by patients, counties, municipalities or organizations committing patients to the hospital and assuming financial responsibility for the expense.

The above three are the leading general hospitals of Oklahoma City, but there are other very good, efficient and efficiently conducted institutions, among which are the Baptist, McBride's Re-Construction Hospital, devoted to orthopedic, plastic and industrial surgery, Oklahoma City General Hospital and Training School for nurses, and the Moorman Sanatoria, which specializes in the treatment of tuberculosis. There are several highly efficient clinics and diagnostic groups which must not be forgotten in estimating the great medical resources of the Capital City.

The relationship existing between the various institutions of Oklahoma City and the many score of able physicians is probably as nearly ideal as is to be found in any city of the Southwest.

Editorial Notes—Personal and General

MUSKOGEE COUNTY MEDICAL SOCIETY were guests of the U. S. Veterans Hospital staff, February 11. The meeting was in charge of Dr. E. Levy. After a short address by Dr. E. J. Rose, Dr. Shade D. Neely presented two cases of renal diseases; one mutiple renal stone, right kidney about to undergo operation and upon which operation for a large left ureteral stone had previously been performed. Dr. Neely also presented a case which could not be diagnosed, consensus of opinion being that the kidney condition was either a tumor, congenital deformity or malformation. Dr. W. B. Tilton presented a case of spastic colitis, simulating gall-bladder disease. Dr. H. B. West presented a case of psychoneurosis hysterical in type.

THE FITE CLINIC, Muskogee, has moved into very elaborate quarters, 6th floor Barnes building. Practically the entire floor is set aside for the use of the Clinic. The scope of work is very broad, including general and special surgery, gynecology, obstetrics, internal medicine, pediatrics, dentistry and everything necessary to make a complete diagnosis. There are laboratories with technicians in charge, X-ray and radium; basal, metabolic ratings, and electro-cardiographic machines. Physicians composing the Clinic are Drs. F. B., William Patton, and E. Halsell Fite, J. L. Blakemore, F. B. Dorwart, S. D. Neely and C. V. Rice.

LOGAN COUNTY MEDICAL SOCIETY met at Guthrie February 26. The physicians tendered a banquet to their wives. The decorations were in pink and green. Dr. L. A. Hahn acted as toastmaster. The speaker of the evening was Dr. LeRoy Long, Oklahoma City. There were also talks by Mr. LeHew and Drs. L. H. Ritzhaupt, C. B. and E. O. Barker and R. F. Ringrose.

LINCOLN COUNTY MEDICAL SOCIETY met at Wellston February 6, guests of Drs. Murray and Erwin. The Society discussed the problem of a County Physician for the indigent sick but could come to no definite conclusion.

VETERANS OF THE WORLD WAR, suffering from nervous and mental disabilities would be further provided for if a bill introduced in the legislature becomes a law. $107,500 is asked for the construction of two additional wings to the separate ward now existing for the purpose and maintained at the Central Oklahoma Hospital, Norman.

JEFFERSON COUNTY MEDICAL SOCIETY held its regular monthly meeting February 4, at Waurika. Drs. Basil A. Hayes and C. J. Fishman, Oklahoma City, gave papers illustrated with lantern slides. Dr. Hayes spoke on rectal diseases and Dr. Fishman reported a case of facial infection, and spoke on "Meningitis, Polio Encephelitis and Anterior Polio Myelitis."

STEPHENS COUNTY MEDICAL SOCIETY held their monthly meeting at Duncan in February. Dr. Ray M. Balyeat, Oklahoma City, delivered an interesting lantern slide lecture on "Allergy in Hay Fever, Asthma, Hives, etc." Dr. W. T. Salmon gave a lecture on "Peri-tonsilar Abscess."

KAY COUNTY MEDICAL SOCIETY held their monthly meeting in Blackwell February 8. Dr. LeRoy Long, Oklahoma City, gave a paper on "Goiter, Its Diagnosis and Treatment."

CARTER COUNTY MEDICAL SOCIETY held their annual banquet February 12, at Ardmore. Drs. C. J. Fishman and LeRoy Long, Jr., Oklahoma City, were guests of the evening and gave interesting talks.

AMERICAN COLLEGE OF PHYSICIANS TO HOLD THIRTEENTH ANNUAL CLINICAL SESSION IN BOSTON, APRIL 8-12, 1929.

The American College of Physicians will hold its Thirteenth Annual Clinical Session in Boston, April 8-12. Dr. Charles F. Martin, Dean of the Faculty of Medicine, McGill University, is President of the College this year, and Dr. John H. Musser, Professor of Medicine at Tulane University Medical School is President-elect and will be inducted to the presidency toward the end of the Boston meeting. Dr. James H. Means, Jackson Professor of Clinical Medicine at Harvard Medical School and Chief of the Medical Service at the Massachusetts General Hospital is General Chairman of all Boston Committees having charge of arrangements for the Clinical Session of the College in April.

The program provides hospital visits, clinics, demonstrations and ward-walks during the forenoons at fifteen different Boston hospitals, and for general scientific sessions each afternoon and evening in the Assembly Room of the Hotel Statler, which will be headquarters. Eminent authorities in their special lines will present the results of their work before an audience competent to appreciate the value of the contributions.

A Symposium on Deficiencies will take place on the first evening of the session, and will be of particular interest because of the fact that deficiencies are nowadays assuming a far more wide-spread and important role than had heretofore been anticipated. They have come into their own as factors producing acute and chronic disease on a par perhaps with infections. The Committee has secured for the program men who can speak with authority on a variety of aspects of this important subject.

Another special feature is a review of the present status of vaccine and serum prophylaxis and therapy, designed to give the internist a rapid survey of the field. The speaker, Dr. Benjamin White of Boston, is an authority on these subjects and can give the high spots in rapid and yet forceful fashion.

The annual banquet of the College will be held Thursday evening, April 11, when Dr. George E. Vincent, President of the Rockefeller Foundation, will deliver the chief address. The Convocation for the conferring of Fellowships, will take place Friday evening, April 12. Dr. Charles F. Martin of Montreal, will deliver the presidential address.

Programs and details concerning reduced fares, admission, etc., may be secured from the Executive Secretary, E. R. Loveland, 133-135 S. 36th Street, Philadelphia, Pa.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M.D
717 North Robinson Street, Oklahoma City.

So called Calcaneo Apophysitis. A. Merlini. Arch. di Ortop., XLIV, 97, 1928.

The author, on the basis of a personally observed case in which roentgenological alterations were more marked on the side considered clinically healthy, arrives at the following conclusion: There exists an affection involving the posterior part of the os calcis which develops in adolescence with pain, both spontaneous and provoked on pressure at the sire of insertion of the Achilles tendon, with swelling of the soft parts of the heel. It may develop sometimes following gymnastic feats as jumping, running, etc., but often develops without known cause. It is benign and is cured spontaneously or with rest in bed. The affection may be compared to the so called localized disturbances of growth which occur at the age of puberty. It still lacks a true clinical individuality and is not well understood in regard to its etio-pathogenesis, for which have been proposed various theories (trauma, inflammation, dystrophy, endocrine disturbances, etc.) The roentgenological picture is not characteristic: the particular aspect of the epiphysis, of the epiphyseal line, and of the calcaneo metaphysis, according to the author, must be considered as different modalities of the process of ossification, which may vary between certain limits according to the country, the race, the sex, and the individual body development, etc.

Lesions of the Seasamoids of the Great Toe. G. Betocchi. Arch. di Ortop., XLIV, 58, 1928.

The author reports twelve personal observations of fracture and congenital divisions of the seasamoids of the great toe and discusses especially the differential of these two conditions. In regard to the mechanism of fracture he notes that only in thirty-four per cent. are these fractures found associated with lesions of the phalanges or of the metatarsals. In these cases it is almost always a matter of direct fracture. In the cases in which the seasamoids alone are involved, he has noticed that the fracture by direct trauma forms thirty-seven per cent. and in these cases it is always and only the external seasamoid that is involved. Granted that the fracture is for the most part by indirect violence, it results that more easily and more frequently it is the internal seasamoid that is involved. Hallux valgus would be a predisposing cause. The author considers finally the cure and the prognosis of these lesions with reference to their industrial importance.

Calcaneocuboid Fusion and Flat Foot. D. Bargellini. Arch. Italiano di Chir., XXI, 387, April 1928.

The author describes a case of "pes planus reflexus," bilateral rigid flat-foot of high degree. The roentgenogram reveals a calcaneocuboid fusion, deformity of the astragalus and hypertrophy of the tubercle of the scaphoid. For the etiology of the calcaneocuboid synostosis the author believes in a congenital origin. For the pathogenesis of the case he considers that the presence of various skeleton anomalies involving the os calcis, the astragalus, and the scaphoid does not allow one special theory to be held, but gives value to the concurrent action of the multiple anomalies encountered. In regard to the late

clinical manifestation and the aggravation of the defect at the epoch of the greatest skeletal growth, he believes that the bony anomalies furnish a predisposing field, but that static influences are the factors causing the onset. For the cure; cuneiform resection, with base downward, of the scaphoid, which permits raising the apex of the mesial arch; plaster apparatus for two months, and then weight-bearing.

Isolated Tuberculosis of the Carpus; Its Diagnosis and Treatment. Merrill C. Mensor. California and West. Med., XXIX, 336, Nov., 1928.

One case is reported. A girl of fourteen had an injury to her right wrist from a fall. Since the roentgen ray was negative, a diagnosis of sprain was made and after three weeks in a splint, the patient was discharged as cured. Seven weeks later, the symptoms returned. At this time, the only clinical findings was localized tenderness over the navicular bone. A new roentgen ray with special reference to this bone was negative. The wrist was again immobolized in hyperextension in a plaster splint. Although the subjective symptoms subsided under immobilization they immediately returned on removal of the splint. Four months after the original injury, linitation of motion and muscle spasm were still definitely evident. Another ray then showed an irregular line through the navicular which looked like a fracture.

Operation was then done. A small amount of thick pus was evacuated on opening the joint. The navicular bone was then removed. Due to softening, it came out in several pieces. The wrist healed quickly and after four months in a cast, it was given complete freedom. Except for slight sensitiveness for the first months, there was no return of symptoms. One year later, the wrist showed no deformity or limitation of motion and strength was practically normal.

Laboratory examination of the pus and bone fragments provided the diagnosis of tuberculosis.

It was thought that the fracture of the navicular was a pathologic one which resulted subsequent to the original injury. It is shown by the progress of the case that it is possible to remove an isolated carpal tubercular bone before the disease has spread to the entire carpus, thus insuring a good functional wrist.

Volkmann's Ischaemic Contracture with Especial Reference to Treatment. Sir Robert Jones. British Med. J., II, 639, Oct. 13, 1928.

The opening paper of the Section of Orthopaedics at the annual meeting of the British Medical Association in 1928, was delivered by Sir Robert Jones upon the above subject. After reviewing the history of the disease from Volkmann's classic paper in 1875, he described the pathology of the condition in the light of the clinical conditions which give rise to it and of the work of Brooks and Jepson. He concurs with Brooks that the lesion is essentially a vascular one and due chiefly to obstruction of the venous return from the limb. While this obstruction to venous return is most frequently produced by the flexion of the elbow used in the treatment of the same, disability, he rightly points out that Volkmann's contracture may arise without any operative interference at all. This is a point of very great medicolegal importance, since the impression has arisen that every case of Volkmann's contracture is a reflection upon the manner in which the patient is treated. He quoted several cases from his own experience, in which the contracture developed in cases in which supracondylar fractures of the humerus were not treated by flexion or restraining apparatus. In each of these cases, the preliminary examination of the patient showed so much interference with circulation that treatment of the fracture was considered inadvisable.

Most of his paper is devoted to discussion of treatment of the condition. This is divided into two parts—prophylactic treatment and treatment of the established ischaemia. His rules for the prevention of this serious complication are: (a) avoid circular compression; (b) reduce dislocations and displaced bone, since they of themselves may interfere with circulation by pressure upon vessels; (c) avoid all kinds of splints, especially if there is much swelling; (d) use no force in flexing the elbow; (e) critically watch all cases of fracture about the elbow for the first few days for evidence of impaired circulation. In his experience, treatment of the established ischaemia is far from satisfactory. In the early stages, he is disposed to feel that incision of the fascia with exacuation of the extravasated blood should be a valuable procedure, though he has had no personal experience with this method. In the later stages, he places reliance upon long continued stretching of the contracted structures. He states that by this method a considerable amount of improvement can be obtained, though restoration to normal is not possible. If nerves have been severed, they should be sutured. Multiple tendon lengthenings he feels are of less value than prolonged stretching painstakingly supervised. He condemns the operation for shortening the bones. Max Page's operation for detaching the origin of the flexor muscles and their downward displacement, he feels is worthy of further trial.

UROLOGY and SYPHILOLOGY

Edited by Rex Bolend, B.S., M.D
1010 Medical Arts Building, Oklahoma City

To be in on the ground floor is a wonderful asset, I suppose nearly always in the business field.

But to be an early worker in a comparatively new field has its drawbacks.

I can well remember when the appendix in the field of surgery was a bone of contention. Certain doctors were avoided by the laity and profession alike because they always operated for appendicitis.

Then the tonsils had their day. There was a wave of tonsilectomy for everythjng, the nose and throat specialists were criticised because they said removal of tonsils would relieve rheumatism.

Then came the teeth with the same conditions prevailing.

And now in a more limited way is cystoscopy and pylography coming in for their share of abuse and misunderstanding.

I wonder (I was too young to know at the time) if the surgeon who diagnosed and removed appendices was curtailed by the doctor on the

case by being told to see if this case had appendicitis by palpation over McBurney's point and allowed no other diagnostic meaneuvers.

I wonder if the throat specialists were sent for and told to make a diagnosis on the history only.

I wonder if the dentists or others are told to "just look at the teeth and X-ray only two," then asked for an opinion as to there being the foci of infection.

I wonder if some surgeon had a post-operative ventral hernia. All appendectomys were in disrepute.

I wonder if someone had a post-operative hemorrhage from tonsilectomy if the whole group of specialists were condemned.

I wonder if because some patient suffered after having several or all teeth removed the whole process of removing teeth is criticised.

Still many physicians are asking for urological consultants and describing just what should be done, they say—"I want this and that done because you are liable to carry infection further."

Just do so much and no more because it will cause a patient pain.

I want a cystoscopy examination but no pyelogram because of the probability of this or that.

Do they tell the surgeon how to close the belly —do they tell him how and when to operate?

Do they tell Dr. Doe to take out just one tonsil?

Do they tell the dentist to use elevators only on this case?

Then above all do they make their own diagnosis, preparation, etc., then tell the consultant to come in and do their work regardless of conditions?

And still they blame cystoscopy because the patients have some pain.

Some patients will have some pain regardless, but so do some patients have hemorrhage after tonsilectomy and it is not a rare occurrence for gas pains to develop after an appendectomy and it does not reflect on surgery or the surgeon.

The sequelae of the flu is beginning to appear. I have already seen several cases with post-flu pyelitis.

It will behoove the family doctor to keep a close watch upon the urinary findings.

Do you know that a chronic prostatitis and trigonitis can and frequently does simulate appendicitis?

There is going to be a post-graduate course in urology given by the extension department of the University of Oklahoma late in March, the biggest thing for urology and the public alike would be for a number of surgeons and internists to take the course.

Just today a prominent doctor described a case in which he traced a stone in its descent from the kidney down and is probably lodged at the uretal orfice. He said that he had been waiting several days for the stone to drop into the bladder because he did not want to subject the patient to the expense of cystoscopic work. This, of course, is considerate on the part of the physician, but the patient will probably pay in the way of kidney damage for his economy.

Ureteral Stricture.—Budd C. Cordus in the Illinois Medical Journal, for November, 1928, says that he believes ureteral stricture, whether congenital or acquired, to be the cause of upper urinary tract infection in a large group of cases. Its early recognition will save many kidneys from destruction and removal.

One must constantly bear in mind that the ureter is one of the most delicately constructed organs in the body. If we are to be successful in our endeavor to promote good drainage, care, gentleness, and patience must be foremost in our thoughts.

Gonnorrhea in Women.—C. Bucura (Wiener Klinische Wochenschrift, October 18, 1928) discusses the treatment of gonorrhea and its complications in women.

He states that we cannot too strongly condemn the practice all too common of pronouncing a woman well on the basis of one or two negative findings. If a woman is known to have been recently infected no such test is to be relied upon as proof of cure.

He extols the virtue of treatment with gonococcus vaccine and considers it should be our bulwark in all such cases. After a thorough treatment with vaccines and continued negative microscopic findings, and especially after the lapse of sufficient time, these patients may be pronounced cured. The diagnosis of cure must rest upon an active immunization and clinical behavior.

DERMATOLOGY AND RADIOTHERAPY

Edited by C. P. Bondurant, M.D.
413 Medical Arts Building, Oklahoma City

Thallium Acetate in the Treatment of Fungus Infections. Grshebin and Salzman. (Derm. Zeitschr., March, 1928, p. 105.)

The author studied the procedure of thallium epilation in Buschke's clinic, and his instructions were followed closely. The report was made from 93 cases, favus 31, trichophytia 58, and microsporia 4. Of this number 3 failed to epilate perfectly and only 6 were uncured at the end of six months. Investigation of kidney function was made before and during the treatment and only once did albumen appear. Blood studies were made in 33 cases with the result that no changes were observed. Mild toxic symptoms were seen in 25 cases, 20 had joint pains, 2 pains in the stomach, 1 had deafness, lacrymation and conjunctivitis, and 2 had deritits on the scalp. The poorly nourished children seemed to be more subject to these untoward symptoms and the

symptoms were more marked in warm weather when the children were allowed to run about in the open. During the holidays when the clinic was closed a number of cases were treated outdoor of whom one died. Here it seemed that the mother's word had been taken for child's weight and that the thallium dosage had not been prepared with its usual exactness. The author concludes that in children epilation by thallium is in no way inferior to that by X-rays. The shorter duration of baldness with the former is fully counterbalanced by the fact that parasiticide treatment can be instituted without delay. In a few cases with irregular shaped heads thallium is thought to be superior, as even dosage of X-rays is not possible. This is also true in very young children and in many cases. Thallium is less time consuming than X-rays and far less expensive. Toxic symptoms may be avoided if strict precautions are followed and such as do occur are offset by the absence of permanent hair loss such as is occasionally noted in X-ray epilations.

Contribution to the Zoster Question. S. A. Glaubersohn and R. A. Willfand. (Derm. Wochenschr., March, 1928, No. 9, p. 300.)

The association between Zoster and chickenpox has often been observed clinically, nevertheless the author considers that little experimental work has been done with a view of testing the possible relationship between these two diseases. They inoculated two babies with the contents of the zoster vesicle. One of the children developed a local vesicle ten days later, and after a further period of eight days a few scattered papules with rudimentary vesicle-formation. It is not assumed from this experiment that there is a definite connection between herpes zoster and chickenpox but confirm the previous findings of Lipschutz and others, namely, that zoster is an infectious disease which can be inoculated from one individual to another.

The Significance of the Blood Groups in Dermatology. Kloevekorn and Simon. (Derm. Zeitschr., June, 1927, p. 294.)

The figures which are not large enough to furnish a basis of much significance give a suggestion that the patients of Group I are easier to render Wassermann-negative than those in Group II. Studies of other diseases of internal origin such as dermitis herpetiformis, the eczemas, and some of the other inflammatory dermatoses are thought to follow blood groupings. The suggestion is also made that the peculiar herpetic manifestations on the skin during pregnancy depend upon the mother and foetus being of incompatible groups, as Schneidner has suggested in the cases of eclampsia.

Desensitization with X-rays in Eczema. Miescher, —(Derm. Zeitschr., April, 1927, p. 89.)

This paper does not well lend itself to consideration due to its length and elaboration. The author found in a general way that the slight immediate lessening of the response to irritation of an eczematous area as the result of irradiation was soon followed by a return of the original condition. When the sound skin of eczema patients was irradiated it had no effect in raising their resistance to irritants. The author adduces clear evidence that irradiation often produces a permanent clearing of eczematous area, and the percentage of these good results was much higher in those patients whose skin condition had lasted only weeks or months rather than in those which had lasted for years. The more acute the dermatoses the better the prognosis. Occupational cases gave far better results than those of an unknown etiology and localized cases responded much better than those which were wide spread. The cases in infants gave only intermediate results. The results from prophylactic treatment after disappearance of the eczema were only illusory.

Lupus Erythematosus, Especially the Acute Form. Ollendorf. (Derm. Zeitschr., April, 1927, page 126.)

In spite of the question of the tubercular origin of lupus erythematosus and its recent advocation, Ollendorf believes that the peculiar reaction of the skin depends on some constitutional condition which causes the reaction to different agents to be of similar type. She quotes illustrative cases and her conclusions, especially in the acute form are that a septic origin is probable. She declines to accept the undoubted favorable effects of gold injections as evidence of a tubercular origin, as gold is a capillary poison, and the occasional occurrence of severe gold-dermititis, analogous to salvarsan-dermititis indicates an action on the vegetative nervous system.

Further Experiences with Gold Preparations in the Treatment of Lupus Erythematosus. E. Freund. Giorn. Ital. di Derm. e Sifilo, 1927, page 311.

The author, after calling attention to ten cases of lupus erythematosus treated by him with krysolgan in 1925 describes his results in sixteen other cases treated with the gold preparation. This treatment included the use of krysolgan, trifal, and aurophos, the author also used sulphoxylat 1 and neocrislo. In twenty-three cases in which the treatment was completed twelve were cured, five much improved, three slightly improved, and in three cases no result was seen. The hyperaemic type of the disease gave the best results, while the results obtained in the scaly cases showed this form less susceptible to the treatment. A slight albuminuria in one case and a slight maliase in one other case were the only ill effects noted from this group of treatment. The author was noncommital as to the individual merits of the various gold preparations. He also refers to a case of lupus vulgaris in which he obtained a very good result with pyotropin combined with aurophos and a cure obtained with arseno benzole in a case which was refractory to gold treatment. The work of Feldt was referred to by the author and attention was called to the use of the gold preparation in the treatment of recurrent fevers, streptococcal septicaemia, experimental syphilis in animals and multiple sclerosis.

Simple Remedies in Eczema. Hoffman. (Derm. Zeitschr. September, 1925, p. 54.)

After commenting against the cults of the new and an expression about the shot-gun prescriptions so beloved of the beginners and the nonspecialists, Hoffman recommends for acute eczema, and as a first application for chronic cases, a cream of equal parts of zinc oxide and pure olive oil, to which two to three percent boric acid can be added, and perhaps a little later one to two percent salicylic acid. Pure olive oil on cotton wool is suggested to be used in removing

the cream before making a fresh application. In the later stages he uses a paint containing pix liquida 5.0 to 10.0 glycerine 10.0 to 20.0, spt. vini rect. ad 100.0, well filtered. This is useful also in psoriasis, and two percent salicylic acid may be added to prevent a tar folliculitis. X-rays are used according to Hoffman to excess in the treatment of eczema, often to the permanent damage of the skin. He cites the opinion of his assistants Schreus and Klein. He finally guards against relapses by after treatment, such as occasional paintings with tar paint or rubbing with weak salicylic ointments.

TUBERCULOSIS

Edited By

L. J. Moorman, M.D. and Floyd Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

Tuberculous Salpingitis Simulating Ruptured Tubal Pregnancy. Report of a Case. J. A. M. A., Feb. 2, 1929. Karl A. Meyer and A. F. Lash.

An Italian woman, aged 26, entered the hospital, May 28, 1927, because of severe pain in the lower portion of the abdomen, bloody vaginal discharge and amenorrhea of one months duration. Six weeks before, following a beer party, she vomited once and experienced a severe and constant pain in the left lower quadrant of the abdomen. She was forced to go to bed for several days. Three weeks later there was a recurrence of the pain on the same side and was severe enough to warrant calling a physician. For the last ten years the patient had had each year a pleuritic pain in the chest, accompanied by cough, slight fever and a nasopharyngitis. Duration of the attacks was seven to ten days under the usual management of common colds. In 1909 she had had two attacks of lower abdominal pains, at six month intervals. A diagnosis of appendicitis was made during one of these attacks.

The menses began at age of twelve; had been irregular, occurring from every two to six months up to the age of fifteen, then every two months and then every six weeks.

Had been married since 1925 and had never been pregnant. At examination the temperature and pulse were normal. Tenderness and pain were present near the umbilical region, to the left. The corpus uteri was firm, smooth, up and fixed. Tenderness over bladder; the adnexa were fixed and there were no masses; but extreme tenderness was present in the left adnexa.

Laboratory findings not important.

Diagnosis of ruptured tubal pregnancy was made and patient was operated on May 29th.

From 300-350cc. of liquid blood with clotted blood adherent to the bladder was found in the pelvis. The peritoneal and pelvic cavity were filled with firm, fibrous adhesions. The tubes were nodular and bound down. A bilateral salpingectomy was done. The postoperative course was uneventful. A recent answer to a questionnaire tells of the patient being well and menstruating every month.

Microscopic examination showed a marked proliferation of the endosalpinx filling the entire lumen. The stroma and muscularis were infiltrated with tuberculous tissue consisting of giant, epitheloid and round cells.

Cautery In Tuberculosis of the Tongue and Larynx. George H. B. Terry, Southern Medical Journal, Feb. 1929.

Nine cases of ulceration of the tongue are reported which were treated and cured by the electric cautery.

Practically all had been treated with nitrate of silver or other medicaments.

Laryngeal tuberculosis is a frequent complication of pulmonary tuberculosis. One of the earliest signs is a hyperemia of the vocal cords. The usual pathological condition is general infiltration of the larynx, edema of the arytenoids, proliferation in the posterior commissure, a thickening of the epiglottis or even ulceration. The most frequent site of ulceration is the vocal cords or the epiglottis, altho it is not infrequent in the vocal bands or arytenoids. When the diagnosis is made the treatment should be begun, the most efficient of which is voice rest or electric cauterization. Any patient with pulmonary tuberculosis who has a tendency to hoarseness should be put on voice rest. If monthly examination shows that the patient is not making satisfactory progress under voice rest, electric cauterization is done under local anesthesia from moistened cocain flakes applied two or three times to the area involved and preceded by a spray of four per cent. cocain to prevent gagging. The indirect method of illumination is used, the cautery point placed cold on the area of ulceration and the current applied until the area is well seared. For the epiglottis and arytenoids a pointed electrode is frequently used and punctures are made into the swollen area in addition to surface cauterization. After treatment consists of nothing at all except occasionally an analgesic is given for the pain. The interval between cauterizations is a month, as a rule, but there are some exceptions.

Not the least of the advantages of the cautery treatment is that it interferes but little with the bed rest so important in the treatment of the pulmonary disease.

Diabetis and Tuberculosis. R. D. Tompkins, Southern Medical Journal, Feb. 1929.

Fourteen cases are reported in which diabetis mellitus and tuberculosis occurred in connection.

By means of insulin and diet the diabetis was controlled, but the tuberculosis showed progressive advancement in all but one case. In this instance in which a diagnosis of pulmonary tuberculosis, moderately advanced "A" was made, the patient gained weight and the x-ray showed some clearing, but the diabetis was more difficult to control.

The results of this series of cases suggests that pulmonary tuberculosis progresses more rapidly in the presence of diabetis.

Tuberculosis and Genius. "Kings it makes Gods, and meaner creatures kings."—Shakespeare.

In many individuals suffering from tuberculosis there seems to be a strange psychological flare, a phenomenon not fully accounted for, not of established scientific lineage, yet quite evident to the student of clinical tuberculosis. In keeping with the above quotation the **spes phthisica** not only has the power to make meaner creatures kings, but its stimulating influence upon genius, often spurs the creative mind to the utmost expression of the attributes of God. Everyone who deals with tuberculosis patients in institutions

knows how patiently they bear their lengthening burdens; how courageous they are, often, in the face of insurmountable obstacles; how optimistic they may be when life is literally being cut down by the inevitable sweep of the Great Reaper. Precious paradox, this, with death so near and life so abundant.

Charles Dickens displayed an uncanny appreciation of the psychological state which often accompanies tuberculosis when he wrote as follows:

> "There is a dread disease which so prepares its victim, as it were, for death; which so refines it of its grosser aspect, and throws around familiar looks unearthly indications of the coming change—a dread disease, in which the struggle between soul and body is so gradual, quiet, and solemn, and the result so sure, that day by day, and grain by grain, the mortal part wastes and withers away, so that the spirit grows light and sanguine with its lightening load, and, feeling immortality at hand, deems it but a new term of mortal life—a disease in which death takes the glow and hue of life, and life the gaunt and grisly form of death—a disease which medicine never cured, wealth warded off, or poverty could boast exemption from—which sometimes moves in giant strides, and sometimes at a tardy pace, but, slow or quick, is ever sure and certain."

Of greater interest in the subtle power of this intangible fraction of the tubercle bacillus which make Gods of those who might otherwise be only kings in the realm of thought. Could anything be more miraculous than the flare of genius from the latent spark in the chilled form of Francis Thompson as he lay deserted on a dump heap near Convent Garden. A girl of the streets gave him succor and saved his body from the Potters' Field that it might later rest at Kensal Green under his own inscription, "Look for me in the nurseries of Heaven." Perhaps this "Angel of the Streets" was acting under the urge of **spes phthisica** when she was prompted to share her pittance with this then undiscovered genius.

From time to time this column will contain brief biographic sketches of those who have come under the influence of this strange power. —L. J. M.

Intrapleural Pressures in Massive Collapse of the Lung: Chas. C. Habliston, M.D. American Jour. of the Medical Sciences, December, 1928.

Massive collapse of the lung has been reported as occurring:

1. In obstruction of the bronchus from within: Foreign body, intrabronchial tumor, mucus plugs, excessive secretions.

2. In obstruction of the bronchus from without: Pressure of aneurysm, mediastinum tumor, pericardial effusion.

3. In obstruction of the bronchus by chronic inflammatory disease: tuberculosis.

4. As a complication of trauma, or operative procedures.

5. As a complication of severe infections grossly involving the nervous system, reported in postdiphtheritic paralysis, acute meningitis and acute poliomyelitis.

Physical findings are:

1. Retraction and immobility of the chest wall of the affected side.

2. A high fixed diaphragm on the affected side.

3. Dullness on percussion over atelectatic lung.

4. Breath sounds either tubercular or absent.

5. Marked cardiac displacement toward the affected side.

6. Roentgen ray findings of marked opacity of the lung, a high diaphragm and typical cardiac displacement.

The author in his experience with artificial pneumothorax has considered an intrapleural negative pressure varying with respiration between 40 and 70 mm. of water as being the average normal. In this condition collapse occurs without the entrance of air into the pleura. The suction or negative pressure normally existing in the pleural is markedly increased and displacement of the heart, mediastinum and diaphragm results, the structures being drawn toward the affected side. Cases have been reported in the literature in which the intrapleural suction varied with respiration between 100 and 160 mm. of water to as high as 337 and 432 mm. of water. As a result cyanosis and dyspnea often develop, probably because of extreme cardiac displacement and acute overdistention or emphysema of the contralateral lung. A vicious circle is now established—bronchial obstruction, absorption of alveolar air, collapse of the lung tissue, marked increase in intrapleural negative pressure which in turn can only draw the obstructing medium more firmly and deeply into the bronchus. It was on this basis that Wilson suggested that partial pneumothorax, by lessening this negative pressure, or converting it into a positive one, might be of assistance in forcing out the obstructing agent. Several cases have been reported and immediate symptomatic relief obtained by this means. The author reports a case in which the disappearance of a cyanosis and dyspnea immediately followed the injection of 600 cc. of air into the pleura.

Artificial Pneumothorax After Fourteen Years: W. B. Kendall and C. B. Ross, Am Rev. of Tb., December, 1928 ((From the Muskoka Hospital for Consumptives, Gravenhurst, Ontario).

The years 1923-1927, inclusive, comprise the period of the first group which contains 148 patients who received compression and 88 controls upon whom reports are available.

Of those who received compression 66.9 per cent are improved, well or working, including 22.2 per cent who are working, while of the controls only 31.8 per cent are improved, well or working, including only 6.8 per cent who are actually working.

The intermediate or 5-year group, made up of patients who commenced treatment in the years 1918 to 1927, inclusive, records 164 cases. Of those who received compression 44.9 per cent are improved, well or working at the end of 5 years, including 44.7 per cent who are working, while among those who were unable to receive compression only 21.3 per cent are improved, well or working, including only 9.1 per cent who are working. At the end of ten years, of those receiving compression 32.7 per cent are still improved, well or working, including 20.9 per cent who are working while of those who did not receive successful compression, partial or complete, only 5.6 per cent are improved, well or working. The death records show that at the end of ten

years of those receiving treatment 65.7 per cent are dead, while of those who were unable to receive it 92.5 per cent are dead.

When it is said that the disease treated by artificial pneumothorax should be unilateral in its manifestations, this is speaking relatively. There are few cases of extensive involvement of one lung in which possibly tuberculous changes of some extent, cannot be demonstrated in the other, radiographically at least 55.5 per cent of the patients reported in this series as receiving treatment have shown definite parenchymatous lesions in the other lung extensive enough to be found in most cases by physical signs. Some of the best permanent results have been obtained in patients who have had definite clinical evidence of a lesion in the contralateral lung. Retrogression of a focus of disease in the noncompressed lung after the successful induction of artificial pneumothorax has been noticed so frequently that interesting conjectures arise as to the cause. The bolstering up of general immunity, by throwing out of commission a lung which, while in active function, is the source of everwhelming toxemia, and the production of hyperemia in the noncompressed lung may be two of the factors which play a part in this amelioration.

THYROID GLAND IN INFECTIONS

All the data presented by W. T. Cole and N. A. Womack, St. Louis (Journal A. M. A., April 21, 1928), point strongly to the fact that the thyroid gland takes an active part in the mechanisms combating diseases of the body in general. Especially does this seem true in acute infections and fevers. Since the iodine content of the gland is reduced so markedly during acute infectious processes experimentally, it seems logical to assume, that the administration of iodine to patients with infectious processes, especially of the acute type, might be beneficial.

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